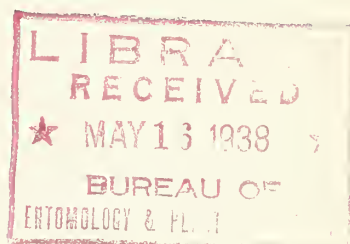


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THE INSECT PEST SURVEY  
BULLETIN



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Volume 18

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Number 3

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# INSECT PEST SURVEY BULLETIN

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## THE MORE IMPORTANT RECORDS FOR APRIL

The outstanding event of the month was the outbreak of the armyworm and the variegated cutworm in northwestern Mississippi, northeastern Louisiana, and east-central Arkansas. Oats and alfalfa were the principal crops injured.

The unseasonably cool rainy weather the second week in April and the continued unfavorable weather delayed hatching of grasshopper eggs over much of the infested territory; however, some hatching has taken place in Utah, southeastern Colorado, and northwestern Texas, and is practically complete in Oklahoma and Missouri.

Eggs of the Mormon cricket have hatched throughout Montana.

Damage by cutworms was reported from many localities, the most injurious being the variegated cutworm in the Delta counties of Mississippi and Louisiana and the army cutworm in western North Dakota.

May beetles were observed at lights as far north as Chadbourn, N. C., La Fayette, Ind., and Kansas. Only moderate injury was reported generally but pecan buds in Georgia were severely injured. Injury by the grub of the green June beetle occurred in Kentucky, Tennessee, and Georgia.

The spring brood of the hessian fly is emerging in Indiana. The insect in the pupal stage withstood abnormally low temperatures in Kansas the second week of the month. The infestation in Pennsylvania is light generally.

The chinch bug has passed the winter successfully but has been slow in leaving winter quarters. The first noticeable flights occurred during the last 10 days of the month in Indiana, Illinois, and Missouri.

The survival of pupae of the corn ear worm, or bollworm, in cages in New Jersey, Virginia, Ohio, and Texas was higher than in 1937, and in Kansas survival was recorded for the first time, cages having been run for 4 years. The insect also survived in Utah.

The pea aphid is appearing on alfalfa and peas along the Atlantic coast from Virginia to New Jersey. A few pea fields on the Eastern Shore of Virginia are heavily infested. The insect is increasing rapidly in the pea fields of southern Wisconsin. On the Pacific coast the survival was high, but cold wet weather in March delayed reproduction until April, when the insect became numerous on alfalfa and Austrian field peas in Oregon and California.

The codling moth is pupating generally over the country and adults were observed as far north as Indiana. Mortality in Washington is very low.

The eastern tent caterpillar is very abundant from New Hampshire to South Carolina and westward to Tennessee.

Apple aphids hatched rather abundantly, but many were killed in Connecticut, New York, and Pennsylvania by cold weather. An outbreak of the rosy aphid is developing in southern Indiana and western Kentucky.

The vegetable weevil is more abundant and destructive in Alabama, Mississippi, and Louisiana than usual. A new infestation, several miles from the known infested area, was reported from Texas. The insect is unusually destructive in southern California.

The Colorado potato beetle is abundant from Virginia, through North Carolina and Mississippi, to Louisiana.

The Mexican bean beetle is coming out of hibernation in the Norfolk district, the first one being taken on beans in the field on April 11, which is 9 days earlier than ever before recorded in that locality. Winter mortality in Colorado is 39 percent; normal mortality is between 60 and 70 percent.

The harlequin bug is appearing in great abundance as far north as Chadbourn, N. C.

The potato leafhopper was taken at trap lights at Arlington, Va., 2 weeks earlier than previously recorded.

The tomato worm is appearing earlier than usual in the tobacco district of northwestern Florida.

Cold weather has delayed planting and has killed much cotton that was planted early. Planting has also been delayed by drought in some areas and by too much rain in others. The cold dry weather in April has delayed the emergence of boll weevils in many places. By the end of the month weather conditions favored the growth of cotton and the weevils were reported as moving into the fields.

Early in the season the cotton flea hopper appeared in great abundance, but it received a set-back by the cold weather and at present is no more than normally abundant.

The great number of reports of abundance of cankerworms indicate that the insect is occurring in outbreak form in the Middle Atlantic States from New Hampshire to South Carolina, also in Ohio and Mississippi.

The forest tent caterpillar is reported in abundance in South Carolina and Mississippi.

An introduced aphid, Myzus ornatus Laing, is occurring in abundance at Berkeley, Calif., and has been discovered in Los Angeles County.

Dialeurodes chittendeni Laing is being reported from Connecticut for the first time.



GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Connecticut. A. W. Morrill, Jr. (April): Reports were received on April 15 that springtails had been eating newly sprouted tobacco seedlings in plant beds at Windsor, in west-central Connecticut, for about a week. On April 23, 15 or 20 specimens were brought in and proved to be very young nymph grasshoppers, probably Melanoplus femur-rubrum (Deg.). Also on the 23d, egg pods were discovered in the ground adjoining beds containing grasshopper nymphs almost fully developed.
- Florida. J. R. Watson (April 23): Lubberly grasshoppers, Romalea microp-tera (Beauv.), have been very abundant in Clay and adjoining counties, doing damage particularly to bulbs of amaryllis, narcissus, iris, and other plants. They began appearing in large numbers late in March and most of them are now in the second and third instars.
- Minnesota. A. G. Ruggles (April 19): Eggs have not hatched yet to any extent. A few nymphs of Chortophaga sp. have been found.
- Missouri. L. Haseman (April 25): During the first days of April in some of the southern counties and since the middle of the month at Columbia, the lesser migratory grasshopper (M. mexicanus Sauss.) has been hatching and, in places, great numbers have hatched and are beginning to feed.
- Nebraska. M. H. Swenk (April): A report, with specimens, from Holt County indicated that Hippiscus rugosus Scudd., C. viridifasciata Deg., and Arphia xanthoptera Burm. were found attacking young alfalfa in that county. Specimens of mites, Eutrombidium trigonum Hermann, were received from Douglas County on April 2, with the report that they were very numerous, presumably feeding chiefly on grasshopper eggs.
- Oklahoma. C. F. Stiles (April 30): Eggs are hatching in all parts of the State, and hoppers are doing a little damage in a few counties. The percentage of hatch varies from 10 to 75.
- Texas. F. L. Thomas (April 22): Grasshoppers continue to be a potential menace in northwestern Texas. Snow probably aided in protecting those that had already hatched.
- Montana. H. B. Mills (April 20): Several reports have been received of hatching of grasshoppers, but those that have been investigated have disclosed nymphs of the overwintering C. viridifasciata.
- Colorado. S. C. McCampbell (April 19): Men are making surveys of egg beds in migratory grasshopper (Dissosteira longipennis Thos.) area. We will have an infestation involving something over 4,000,000 acres of this species. Eggs are developing very slowly, owing to spring rains and snows. It is estimated that it will be 3 weeks before this species hatches.



Utah. G. F. Knowlton (April 16): Eggs are abundant and in good condition west of Ephraim, in Sanpete County, central Utah, and near Trenton, in Cache County, northern Utah. Little hatching has occurred, as repeated snow storms stopped hatching about the middle of March.

MORMON CRICKET (Anabrus simplex Hald.)

Montana. H. B. Mills (April 20): Mormon crickets are hatching generally throughout the State; and field work on control will probably start before the end of April.

CUTWORMS (Noctuidae)

New York. N. Y. State Coll. Agr. News Letter (April 25): The well-marked cutworm (Agrotis unicolor Walk.) was found on April 18, feeding on spinach in Nassau County.

New Jersey. J. B. Schmitt (April 22): Cutworms are abundant in rubbish in and around fields. Some plants have been destroyed in coldframes.

Virginia. W. J. Schoene (April 20): Climbing cutworms are very common on peach trees.

H. G. Walker and L. D. Anderson (April 26): Cutworms are moderately abundant in some fields at Norfolk.

Georgia. T. L. Bissell (April 25): A correspondent sent in 15 specimens of Lycophotia margaritosa saucia Hbn. from 1 tomato plant in a greenhouse at Clarkston. They were eating fruits. Since February 13, 14 moths have been taken in light traps at Experiment and 6 on March 23.

C. H. Alden (April 20): Cutworms have cut off about one-sixth of the tomato plants set out in the last week at Cornelia. These are much more injurious than last year.

Florida. F. S. Chamberlin (April 5): Cutworms caused relatively little damage in fields of newly set tobacco this season in Gadsden County.

Alabama. J. M. Robinson (April 23): These pests have attacked onions, cabbage, and tomato plants to a great extent in central and southern Alabama.

Mississippi. C. Lyle (April 21): H. Gladney of Ocean Springs reported that he had observed damage to tomatoes, beans, and corn in Jackson County, and N. D. Peets, of Brookhaven, indicated that cutworms were numerous in gardens and flower beds in his districts. Numerous reports from the Delta counties indicate the heaviest infestation of variegated cutworm (L. margaritosa saucia) in several years. Much damage is being done to all winter cover crops. As many as 20 or 30 worms under a single bur-clover or alfalfa plant were reported in some instances. Some alfalfa is being destroyed by mixed infestations of the armyworm (Cirphis unipuncta Haw.) and the variegated

cutworm, which is very abundant in alfalfa, bur-clover, and other cover crops.

Louisiana. R. C. Gaines (April 21): While in East Carroll Parish on April 20, we visited a 62-acre field of bur-clover which had been completely destroyed by cutworms.

Tennessee. L. B. Scott (April 1): Several cutworms per square foot were noted in many pastures in Montgomery County on March 30. Several cases of severe damage have been noted in tobacco plant beds. It is not uncommon to find five cutworms per square foot in pastures. Observations indicate an unusually severe infestation in north-central Tennessee. It is much more severe than the heavy infestation in 1937. Damage is particularly severe to corn, tomatoes, tobacco-plant beds, and strawberries.

Kentucky. W. A. Price (April 27): Claybacked cutworms (Feltia gladiaria Morr.) are present in large numbers and are causing much damage to young tobacco plants in the bed and to clover and alfalfa. They seem to be generally distributed over the State.

Michigan. R. Hutson (April 25): Cutworms are abundant in Berrien County about St. Joseph, in Van Buren County at Paw Paw, and in Manistee County. The species reported at Manistee is A. unicolor.

Missouri. L. Haseman (April 25): Cutworm moths accompanied the flights of armyworm moths during the first part of the month, but they were less abundant than the latter. To date, no complaints of cutworms have been received, but the partly grown cutworms are abundant in the sod. Variegated cutworms bred from eggs in the laboratory are now nearly full-fed.

Arkansas. W. F. Turner (April 15): Peaches in Cross County are being injured by climbing cutworms.

North Dakota. J. A. Munro (April 16): Infestations of the army cutworm (Chorizagrotis auxiliaris Grote), though spotted, are heavy enough to indicate serious injury to crops as soon as plants are above ground. Reports have been received from five or six of the western counties.

Kansas. H. R. Bryson (April 25): The moths of C. auxiliaris were abundant at lights during the second and third weeks of April. The larvae did not cause much injury to crops because the garden crops in most localities were not up. They were reported causing injury to oats at Republic.

Kansas. H. R. Bryson (April 25): Eriopyga incincta Morr., Parastichtis bicolorago Guen., and Feltia venerabilis Walk. were observed destroying the leaves of reclaimed sand-dune land at Manhattan. The last was also found in gardens.

Oklahoma. C. F. Stiles (April 30): Armyworms are generally distributed over the southern part of the State.

Texas. F. L. Thomas (April 20): Cutworms have been severe in general. They appeared early and damaged wheat in Baylor County. One farmer lost 35 acres. Cutworms were abundant throughout March on lettuce, potatoes, corn, and strawberries in Galveston County.

Colorado. G. M. List (April 23): The western army cutworm (C. auxiliaris) is doing noticeable damage in some alfalfa fields in Larimer County. Two specimens of Porosagrotis orthogonia Morr. were brought in from a 30-acre field in Adams County in which the wheat had been destroyed.

Utah. G. F. Knowlton (April 25): Cutworms are abundant in the sandy cultivated land from Lakeview to Pleasant Grove, in Utah County. Alfalfa is suffering most from their attack.

C. J. Sorenson (April 22): Moderately abundant in alfalfa fields in Cache County.

Arizona. C. D. Lebert (April 21): Noctuid larvae, Leucocnemis sp., severely defoliated ash trees in the Phoenix area. They hide under the bark by day and feed in the new growth by night.

California. J. Wilcox and M. W. Stone (March 25): Damage by Feltia annexa Treit. was especially severe on lettuce at Costa Mesa. Peas were also attacked.

#### MOTHS AND BUTTERFLIES (Lepidoptera)

Vermont. H. L. Bailey (April 20): The first specimen of the painted lady (Vanessa cardui L.) was observed at Springfield, in the southeastern part of the State, today.

Connecticut. J. V. Schaffner, Jr. (April 21): Cocoons of Philosamia cynthia Drury are abundant in some sections of New Haven. J. E. R. Holbrook and T. P. J. Duffy, of this laboratory, report them very abundant in the vicinity of the New Haven freight yards, where there are many ailanthus trees and saplings of natural reproduction.

Florida. J. R. Watson (April 23): The orange dog (Papilio cresphontes Cram.) began to be noticed on nursery stock early in April.

Louisiana. B. A. Osterberger (April 18): On the highway near Gonzales, Ascension Parish, many larval stages, apparently of Estigmene acrea (Drury) were noticed migrating across the paved highway.

Ohio. E. W. Mendenhall (March 30): The cecropia moth (Platysamia cecropia L.) is quite numerous this year. It made its appearance early, about the middle of March.

Utah. G. F. Knowlton (April 16): Mourning cloak butterflies (Hamadryas antiopa L.) have been seen on warm days in northern Utah since March 6.



WIREWORMS (Elateridae)

Connecticut. A. W. Morrill, Jr. (April 1): Limonium agonus Say, which usually appears about the end of April, was first observed in small numbers under freshly pulled stumps on March 16 at Windsor, in the west-central part of the State. They were seen in the field when plowing was begun on April 1, and have since been found in large numbers in the soil. These fields will be set to tobacco about June 1, at which time untreated fields may be expected to suffer at least as much damage as was recorded last year. Untreated portions of the fields in question did not produce marketable tobacco last year and the expense was increased by the fact that from five to six resettings by hand were necessary.

Georgia. M. Murphoy (April 22): Larvae of Heteroderes laurentii Guer. were collected in strawberry fruit grown at Atlanta. (Determined by A. G. Boving.)

Kansas. H. R. Bryson (April 23): The true wireworms have caused some damage to wheat in a few instances. Aeolus amabilis (Lec.) injured spring wheat in some small plots at Junction City.

Utah. G. F. Knowlton (April 15): Wireworms were numerous in sod examined at Peterson, in Morgan County.

Washington. H. P. Lanchester (April 20): Melanotus oregonensis Lec. has been found in the adult stage during the last month at Walla Walla. The larvae have been noted only recently. L. infuscatus Mots. was collected in both adult and larval stages from a number of cultivated fields, and in at least one instance was the predominant form.

E. W. Jones (April 19): Larvae of the Pacific coast wireworm (L. canus Lec.) and the sugar-beet wireworm (L. californicus Mann.) were found feeding on lettuce plants in gardens at Walla Walla as early as April 7. Large numbers of the sugar-beet wireworm were taken by baiting in the week ended April 18.

WHITE GRUBS (Phyllophaga spp.)

North Carolina. W. A. Thomas (April 15): May beetles are just coming to lights for the first time at Chadbourn, but as yet are not very abundant.

J. F. Cooper (April 20): One-third of a  $4\frac{1}{2}$ -acre planting of wheat in Alexander County was destroyed in February and March. No new damage was noted on April 13. Damage appeared only in those parts of the field where wheat had been planted following lespedeza.

Georgia. G. F. Moznette (April 4): P. forsteri Burm. and P. hirticula Knoch have caused considerable injury to the opening buds and new growth on pecan trees in orchards south of Albany. The damage has been especially severe to the buds and new growth on top-worked pecan trees, which were the first to put out in the spring. (Det. by P. Lugbill.)

Mississippi. C. Lyle (April 21): Slight damage was done by May beetles in one pecan orchard in Jackson County, according to H. Gladney, on April 21, while N. D. Peets reported that he recently observed considerable injury to pecan trees in the southwestern part of the State.

Louisiana. B. A. Osterberger (April 21): June beetles have not been very active since the cold weather the first part of April, which was followed by heavy rains. The last few nights, flights have been very light in East Baton Rouge Parish. The species collected were P. congrua Loc., P. nicans Knoch, and a few P. crinita Burm.

Indiana. P. Luginbill (April 25): The first May beetles to appear at La Fayette were a female and a male of P. forvida F., which were captured at traps on the night of April 19.

Kentucky. W. A. Price (April 27): May beetles began flying in Lexington on April 14.

Kansas. H. R. Bryson (April 25): May beetles have been very abundant at lights the last few nights. Larvae of the other broods are causing some injury in gardens and strawberry beds.

#### GREEN JUNE BEETLE (Cotinis nitida L.)

Georgia. T. L. Bissell (April 15): Larvae have been damaging pimento pepper plant beds at Zebulon, in central Georgia.

Tennessee. L. B. Scott (April 26): The infestation on tobacco plants in Montgomery County is about normal. Severe damage was noted occasionally.

Kentucky. W. A. Price (April 27): Green June beetle larvae damaged tobacco plants in the beds at Lexington, Versailles, and Danville.

#### JAPANESE BEETLE (Popillia japonica Newm.)

Maryland. H. C. Donohoe (April 22): Numerous samples of soil taken at Princess Anne indicate an average population of more than 11 larvae per square foot. The maximum obtained in any 1-square-foot sample was 29 larvae. Vegetation in the infested area is sparse native cover, the most noticeable plant being wild strawberry, of which the larvae appear particularly fond.

#### BUMBLE FLOWER BEETLE (Euphoria inda L.)

Vermont. H. L. Bailey (April 22): Several specimens were collected at Dorset, Bennington County, southwestern Vermont, today.

CEREAL AND FORAGE-CROP INSECTS

WHEAT AND OTHER SMALL GRAINS

ARMYWORM (*Cirphis unipuncta* Haw.)

Virginia. H. G. Walker and L. D. Anderson (April 26): Larvae are injuring oats and other crops at Norfolk and it is reported that they are rather abundant on the Eastern Shore of Virginia.

Mississippi. C. Lyle (April 25): A very destructive and widespread outbreak of the true armyworm is occurring in several Delta counties. First complaints were received on April 15. Most of the injury was done to oats, but larvae were also found in alfalfa. Some of the heaviest damage is in Le Flore and Sunflower Counties, although very serious injury was reported from various localities in Bolivar, Coahoma, Quitman, Tallahatchie, Washington, Sharkey, Humphreys, and Issaquena Counties. Some alfalfa is being destroyed by mixed infestations of armyworm and variegated cutworm. Only a small percentage was parasitized.

Louisiana. R. C. Gaines (April 20): Armyworms were observed and reported in Madison and East Carroll Parishes. This appears to be a rather serious outbreak. The insect was originally reported on April 15 in Tensas Parish and was found in every oat field visited. Stripping was in rapid progress throughout an entire field of 400 or 500 acres. (Det. by C. Heinrich.) (April 19-20): Infestations of true armyworms were observed and reported on oats in Tensas, Madison, and East Carroll Parishes. The damage appears to be most serious in Tensas Parish. Some fields are being stripped now, and others apparently have enough worms to cause complete stripping. Very little stripping has been reported in Madison Parish but there and in East Carroll Parish worms can be found in many fields. The infestations appear to be light. The worms in Madison Parish and in East Carroll Parish, generally speaking, appear to be smaller and less advanced than those in Tensas, where many of the worms in some fields are about ready to pupate. Lycophotia margaritosa saucia Hbn. was taken in association with the armyworm.

Missouri. L. Haseman (April): During the first week in April armyworm moths were extremely abundant throughout central Missouri, visiting fruit blossoms. Following the severe freeze of April 8 and 9, moth flights continued but moths were less abundant here. Following the freeze in northwestern Missouri moths were reported as being extremely abundant. To date, no evidence of larvae has been reported.

Arkansas. D. Isely (April 19): There was an outbreak on oats in some of the east-central counties where the insect was most destructive last year. All oat fields scouted in Arkansas County were infested.



California. A. E. Michelbacher (April 20): In the Patterson area the armyworm was abundant in alfalfa fields the first part of April.

WHEAT WHITE GRUB (Phyllophaga lanceolata Say)

Kansas. H. R. Bryson (April 23): These grubs caused a tremendous loss to the wheat crop in the southern and central parts of the State.

Oklahoma. F. A. Fenton (April 22): P. lanceolata is causing very little injury at present.

HESSIAN FLY (Phytophaga destructor Say)

Pennsylvania. C. C. Hill and E. J. Udine (April 21): Light infestations prevail in fall wheat throughout most of the State, except in the East where heavily infested fields were found in Bucks County. Examination of puparia from Cumberland County, made today, showed about 6-percent mortality, 14-percent pupation, 12 percent emerged. On this date a few scattered eggs in wheatfields showed the beginning of the oviposition period.

Indiana. C. Benton (April 25): Examination made in a heavily infested field of wheat near Delphi on April 13, showed 88-percent pupation, with 1 percent of the flies emerged. No eggs or larvae were found on that date. On April 23, 90 percent of the puparia were empty, the flies having emerged. An egg count in wheat showed 92 percent of culms infested, with an average of 18 unhatched eggs per culm; a larval count showed 84 percent of culms infested, with an average of 10 small larvae per culm.

Kansas. H. R. Bryson (April 14): Adults were reported flying at Manhattan on April 14. They were observed by R. H. Painter.

J. R. Horton (April 16): The hessian fly has demonstrated very good ability to withstand unseasonably low temperature in the pupal stage. On April 7 to 9 a population, of which 35 to 50 percent were in the pupal stage, was subjected to ground-surface temperatures of 30° F. for 40 hours and 28° for 10 hours more. The extent of mortality resulting has not been determined, but as late as April 16 it shows no striking increase above normal.

CHINCH BUG (Blissus leucopterus Say)

Indiana. C. Benton (April 25): Migration from winter quarters was slow and gradual during April, many bugs still remaining in clumps of bunch grass. Examination on April 14 of 5 winter wheatfields, totaling 182 acres, and one ryefield of 27 acres showed only 2 bugs, both concealed in pieces of cornstalk. These fields situated near bunch-grass areas are known to be rather heavily infested. Casual observations made in winter wheat since April 12 show light infestation, evidently due to minor flights. April weather has been cool, with frequent rains, but even on several days of bright sunshine, with air temperatures in the 80's, examination in infested clump grasses showed exposed chinch bugs



still with the tendency to hide, characteristic of the bugs earlier in the season. The first noticeable flight of the bugs and the first mating in the field was observed on April 25, with the air temperature at 72°.

Illinois. W. P. Flint (April 20): Chinch bugs apparently came through the winter with a very low mortality. There has been some flight during the last few days, but not all of the bugs are out of winter quarters.

Missouri. L. Haseman (April 25): Chinch bugs were observed on the wing on warm days throughout central Missouri during the last 10 days.

#### GREEN BUG (Toxoptera graminum Rond.)

Oklahoma. C. F. Stiles (April 30): Green bugs are damaging wheat in parts of Harmon and Greer Counties.

Texas. F. L. Thomas (April): Report of damage to wheat by the green bug in Hale County on March 26; also in Floyd County on April 5.

#### CORN

#### CORN EAR WORM (Heliothis obsoleta F.)

New Jersey. F. F. Dicke (April): The survival of pupae in cages in the later part of March was somewhat higher than in 1937 (26.5 percent, as compared to 20.5 percent). In a field examination 13.3 percent of the pupae recovered were living. Above-normal precipitation late in the summer and early in the fall resulted in considerable mortality. Winter temperatures at Morristown were about normal. The indications are that early maturing sweet corn in the Burlington section in New Jersey will be somewhat less infested than in 1937.

Virginia. F. F. Dicke (April): The survival of pupae in late March in cages established in mid-September, was slightly higher than in similar cages in 1937 (29.5 percent, as compared to 24.5 percent). In field examinations the survival was found to be somewhat lower than in 1937 (27.3 percent, as compared to 37.0 percent). The heavy rainfall late in the summer and early in the fall of 1937 caused considerable mortality of pupae in the field. The moisture content of the soil was high throughout the fall and winter, a condition unfavorable for successful hibernation. Temperatures were above normal from December to March. With normal temperatures and precipitation in May and June, it is believed that the ear worm will probably be somewhat less abundant in northern Virginia than in 1937.

Georgia. T. L. Bissell (April): Caged female moths are laying eggs in large numbers at Experiment. The first were obtained the night of April 26.

Ohio. F. F. Dicke (April): The pupal survival in cages the last week of March was 10.5 percent, as compared to 9 percent in 1937, when moth emergence in cages was first recorded at Marietta. The temperatures

at Marietta were somewhat lower during the winter of 1937-38 than during that of 1936-37; however, they were above normal. Precipitation was below normal between October and March. With normal temperatures and precipitation in May and June, indications are that the insect will be troublesome in early tomatoes and early maturing sweet corn in the Marietta section.

Georgia. T. L. Bissoll (April 18): One male, the first specimen of the season, came to a light trap on April 17 at Experiment, in the central part of the State.

Florida. J. R. Watson (April 23): Complaints are beginning to come in of the depredations of the corn ear worm working as a budworm in all parts of the State.

Kansas. J. R. Horton (April 16): For the first time the corn ear worm succeeded in passing the winter in soil cages operated for 4 successive years. It wintered over in the pupal stage, 6 percent of 200 worms surviving on April 2. The condition of soil and the depth of pupation are about as usual. The winter was mild, except in December when the official temperature dropped 1.0° below normal; in January and February it was 4.5° above normal.

Utah. H. E. Dorst (April 23): Winter survival of pupae from overwintering cages examined on April 21 shows a 17-percent survival, as compared to 65 percent from cages examined the first part of March. No survival was observed in 1937.

#### EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

New Jersey. J. B. Schmitt (April 12): Surveys indicate that less than 5 percent of the overwintering larvae were destroyed by winter conditions. Pupation is now in progress. The first pupae were found in South Jersey on April 12.

C. A. Clark (April 23): Spring pupation of the European corn borer is about 2 weeks earlier than usual, owing to very warm weather and sufficient rainfall. Counts indicated from 15- to 25-percent pupation in Burlington and Monmouth Counties by April 22.

Virginia. H. G. Walker and L. D. Anderson (April 26): A large percentage of the overwintering larvae in an out-door cage at the Virginia Truck Experiment Station have pupated and the moths have been emerging for several days.

#### ALFALFA

##### ALFALFA WEEVIL (Hypera postica Gyll.)

Utah. C. J. Sorenson (April 22): Moderately abundant in alfalfa in Cache County.

California. A. E. Michelbacher (April 20): There was only one field in

the San Joaquin Valley injured by the alfalfa weevil and this would not be classed as economic damage. The average number of larvae collected per 100 sweeps of an insect net in this field exceed 3,000. The highest larval populations in other fields were seldom more than 500 and in many fields the count did not exceed 100 per 100 sweeps of a net. The highest average larval count per 100 sweeps was 89 at Pleasanton on April 17, and on the same day in the San Francisco Bay area larval counts in fields not cut were from 49 to 476 per 100 sweeps. Parasitization of large larvae by Bathyploctes in different fields in San Joaquin Valley on April 8 ranged from 14 to 76 percent. At Pleasanton 96 percent of the large larvae were parasitized on April 6. In the San Francisco Bay area parasitization ranged from 87 to 91 percent.

PEA APHID (Illinoia pisi Kltb.)

New Jersey. J. B. Schmitt (March): This aphid was found reproducing on alfalfa the last week in March and is still reproducing.

Delaware. L. A. Stearns (April 23): Because of the unusually early season, pea aphids are appearing in considerable abundance in Sussex County.

Virginia. H. G. Walker and L. D. Anderson (April 26): Many alfalfa fields are rather heavily infested. Although they are not nearly as abundant as last year, these aphids are present in many of the pea fields. Indications are that most of the garden peas in Norfolk and Princess Anne Counties will escape serious injury. However, a few of the pea fields on the Eastern Shore of Virginia are becoming rather heavily infested and at least two of the larger canners have started control operations.

Louisiana. C. O. Eddy (April): These insects appear in small numbers in southern Louisiana but are abundant in the northern part of the State.

Kentucky. W. A. Price (April 27): The aphid is abundant on alfalfa at Princeton and Henderson in western Kentucky.

Wisconsin. J. E. Dudley, Jr. (April 19): The first aphid, an adult stem-mother, was found near Madison on April 4. This aphid must have hatched the first of April or before. Alfalfa was looked over twice weekly since the middle of March but eggs were very scarce last fall.

Kansas. H. R. Bryson (April 25): Some pea aphids are present in the State but are not causing damage.

Utah. G. F. Knowlton (April 3): First-, second-, and third-instar aphids and eggs were found in a gravelly, west-sloping alfalfa field at Mill Creek, in Salt Lake County. (April 21): A mature stem-mother, and first- to fourth- instar nymphs of the second generation, some with well-developed wing pads, were found on alfalfa and sweetclover at Willard, Ogden, and near Provo. (April 25): A few winged and mature second-generation apterous pea aphids are now present on alfalfa. In the Payson-Benjamin area of Utah County these insects are particularly abundant for this early in the season.



C. J. Sorenson (April 22): Pea aphids are very abundant in alfalfa fields at Moab.

Washington. R. D. Eichmann (April 2): Populations nearly stationary during the last month on hay-meadow alfalfa in the southeastern part of the State. Very few are found on erosion-control alfalfa on higher ground.

Oregon. M. M. Recher and L. P. Rockwood (April 19): The long warm fall of 1937 in the Willamette Valley, following sufficient precipitation to germinate self-sown and early fall-sown annual legumes, and a mild, exceptionally wet winter were favorable to the winter survival of viviparous forms. A wet, cold March delayed the spring build-up of aphids until the first week of April. Since then a rapid increase was noted in several fields of vetch and Austrian winter field peas seeded in September and early in October. Fields seeded after October 25 at a distance from earlier seeded annual legumes or from volunteer are free from infestation, but some migration into these fields is expected soon. The only natural enemies present in appreciable numbers are the two species of fungi Entomophthora aphidis and Empusa planchoniana, especially the former.

California. E. O. Essig (April): The pea aphid has been very abundant in the alfalfa fields of central and southern California since April 1. It is especially numerous in the Antelope Valley near Lancaster.

#### COWPEA APHID (Aphis medicaginis Koch)

Arizona. C. D. Lebert (April 21): An extremely heavy infestation of the alfalfa or cowpea aphid was observed in a 30-acre field of alfalfa northwest of Phoenix. The alfalfa stems were bent over from the weight of these pests.

#### CLOVER

#### CLOVER LEAF WEEVIL (Hypera punctata F.)

Maryland. E. N. Cory (April 19): This pest was reported from Ellicott City attacking clover.

Kentucky. W. A. Price (April 27): This weevil did some damage to clover and alfalfa in the western part of the State.

Kansas. H. R. Bryson (April 13): The clover leaf weevil has been reported as infesting alfalfa fields at Fredonia.

Idaho. R. W. Haegle (April 19): This weevil is much more abundant in the southwestern part of the State than usual and in numerous areas is damaging the early growth of alfalfa. Other outbreaks have been observed in springs following mild winters.

F. H. Shirck (April 15): Larvae are feeding in crowns of alfalfa plants at Parma, in southwestern Idaho, thus preventing new growth.

Damage is accentuated by the recent cool weather, which has held alfalfa from making normal growth.

Utah. G. F. Knowlton (April 16): Adults were observed at Hooper.

C. J. Sorenson (April 22): Larvae were moderately abundant at Hyde Park and Smithfield, Cache County. Two overwintering adults also were seen here.

Washington. E. J. Newcomer (April): A county agent reported that this pest was seriously damaging several alfalfa fields in Yakima County.

CLOVER MITE (Bryobia praetiosa Koch)

Pennsylvania. H. E. Hodgkiss (April 19): This mite is very abundant on clover in the eastern part of the State.

VETCH

VETCH BRUCID (Bruchus brachialis Fahraeus)

North Carolina. J. S. Pinckney (April 19): The vetch weevil is now beginning to emerge from hibernation quarters in central North Carolina. A few adults that emerged were swept from vetch on April 18.

GREEN CLOVER WORM (Plathypena scabra F.)

Georgia. T. L. Bissell (April 14): Beginning March 19, frequent examinations of vetch at Experiment, in central Georgia, have yielded small numbers of eggs, and on that date one small caterpillar was found. On April 14 it matured to a moth. Moths were common at light traps and around buildings from December to March, inclusive.

STRAWBERRY FRUITWORM (Cnephiasia longana Haw.)

Oregon. D. C. Mote (April 27): First- and second-instar larvae have been abundant on vetch and clover at Mount Angel, Marion County, in northwestern Oregon, since the first of the month.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis F.)

Louisiana. B. A. Osterberger (April 20): In Saint John the Baptist, Ascension, and East Baton Rouge Parishes the early spring weather was very favorable for the early borer emergence, with indications of a very early first generation. The first-generation larval stage was reduced by frost and low temperatures accompanied by wind and rain in April. Eggs are being collected but to date no Trichogramma have been taken.

FRUIT INSECTS

CALIFORNIA TENT CATERPILLAR (Malacosoma californica Pack.)

California. F. H. Wymore (April 18): Heavy infestation noticed of the California tent caterpillar and a few colonies of M. disstria Hbn. on prune and cherry trees in the orchards of the Asti Colony, between Cloverdale and Geyserville. From 12 to 15 colonies of caterpillars were seen on many of the trees. Not a great deal of damage was apparent at that time, but most of the caterpillars were in the second instar, so if nothing is done to prevent feeding, a great deal of damage will result.

LEAF CRUMPLER (Minocla indigenella Zell.)

Texas. F. L. Thomas (April 6): M. indigenella was found at El Campo in Wharton County, on April 6, on plum trees.

TARNISHED PLANT BUG (Lygus pratensis L.)

New York. N. Y. State Coll. Agr. News Letter (April): Tarnished plant bugs numerous in Rockland County on April 18. In Ulster County on April 25, they were numerous on opening buds.

Pennsylvania. H. E. Hodgkiss (April 19): Adults are more abundant on apple, cherry, and peach buds than for several years.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Kentucky. W. A. Price (April 27): San Jose scale is very abundant on peach trees in orchards in western Kentucky.

South Carolina. L. O. Cartwright (April 28): Injury is being complained of by peach growers in the south-central section.

Mississippi. C. Lyle (April 25): L. J. Goodgame, of Aberdeen, and N. D. Peets, of Brookhaven, report heavy infestations on unsprayed fruit trees in their districts.

Arizona. C. D. Lebert (April 21): A heavy infestation was found in a large rose garden in the Phoenix area.

Washington. E. J. Newcomer (April 5): M. A. Yothers examined 2,000 overwintering scales on apple trees and 1,500 on pear trees. At Yakima there were 95 percent and 93 percent alive on the two fruits, respectively. This is the result of a very mild winter, the minimum temperature having been 17° F.

SCURFY SCALE (Chionaspis furfura Fitch)

Connecticut. E. P. Felt (April 23): The scurfy bark louse was extremely abundant on an apple tree at Stamford.



APPLE

CODLING MOTH (*Carpocapsa pomonella* L.)

- New York. D. W. Hamilton (April 26): Approximately 50 percent of the larvae overwintering in paper bands at Poughkeepsie have pupated, whereas only a few of those found while scraping trees at Kinderhook have pupated. Last year, pupae were noted first on May 11, and moths were first captured in bait traps on May 24.
- Delaware. E. A. Stearns (April 23): Between 50 and 75 percent of overwintering larvae pupated on this date. Apples in full bloom.
- Georgia. C. H. Alden (April 20): First moth caught at Cornelia on April 11; eight caught on April 18. No egg deposition to date.
- South Carolina. L. O. Cartwright (April 28): The emergence of spring adults is above average at Clemson. The peak of adult emergence was April 14.
- Indiana. L. F. Steiner (April 25): Moth emergence began in the insectary at Vincennes on April 24, and the first moths were taken from bait traps on April 25. Development is 2 weeks earlier than normal. Hatching is expected to start about May 5. Pupation under rough bark had reached only 33 percent by April 23.
- Illinois. W. P. Flint (April 20): Survival very high. Pupation is general in the southern part of the State. No adults have been observed to date.
- Michigan. R. Hutson (April 25): Larvae came through the winter in good condition, and are abundant in fruit-growing districts.
- Kentucky. W. A. Price (April 27): Moth emergence began at Paducah on April 15, and by April 19 about 73 percent of the larvae had pupated. At Lexington, flight began on April 25.
- Missouri. L. Haseman (April 22): Pupation has been under way since the middle of the month, with 15 percent of the larvae in the pupal stage in our breeding sticks in southwestern Missouri. At Columbia some of the breeding-cage material is showing nearly 30 percent pupation, but examination at Columbia on April 22 showed the overwintering worms on the tree trunks still in the larval stage.
- H. Baker (April 20): The first pupae were observed in the field on April 5; at present about one-third of the hibernating larvae have pupated.
- Kansas. H. R. Bryson (April 23): Codling moth is reported to be more abundant in northeastern Kansas than for several years.
- Washington. M. A. Yothers (April 5): Winter mortality at Yakima has been negligible owing to mild temperatures.



EASTERN TENT CATERPILLAR (Malacosoma americana F.).

New Hampshire. J. G. Conklin (April 13): Tent caterpillars began hatching in Durham on April 13. They appear to be fully as abundant throughout the southern half of the State as they were last year.

Vermont. H. L. Bailey (April 20): Eggs have hatched and tents are forming in large numbers throughout the southern half of the State.

Massachusetts and Connecticut. J. V. Schaffnor, Jr. (April 15): Hatching in Massachusetts was noted as general in the northwestern part of Middlesex County on April 14, while in the southern part of Worcester County and in several localities in Connecticut, the newly formed tents were from 2 to 3 inches in diameter on that date.

Connecticut. M. P. Zappo (April 23): Webs are present but much less abundant than last year.

New York. N. Y. State Coll. Agr. News Letter (April): Apple-tree tent caterpillars were observed hatching on wild cherry on April 1 at Ithaca.

R. E. Horsey (April 17): Caterpillars  $1/8$  inch long were found on April 16. They were in nests from  $1\frac{1}{2}$  to 2 inches in diameter on ornamental and native wild crab apples. They were very numerous in native woods on wild black cherry (Prunus serotina) and common choke-cherry (P. virginiana) near Irondequoit Bay, east of Rochester on April 17. About every wild cherry tree or shrub had from 4 to 20 nests. Other reports indicate a heavy infestation in the Rochester district.

New Jersey. G. J. Hacussler (March 29): Egg masses were observed hatching at Moorestown on March 29.

E. Kostal (April 22): Very few nests have been noted in the vicinity of Morganville, Monmouth County.

Delaware. L. A. Stearns (April 20): The infestation is general and more severe in southern Delaware than usual.

Maryland. E. H. Siegler (April 22): The eastern tent caterpillar is not abundant at Beltsville and vicinity.

H. C. Donohoe (April 22): Tent caterpillar nests are abundant in uncultivated shrub and forest land in the vicinities of Salisbury and Princess Anne.

Virginia. H. G. Walker and L. D. Anderson (April 26): Tent caterpillars have been rather abundant in the Norfolk area during April. They have been especially abundant on wild cherry and have defoliated many of these trees, notably in the Ocean View section of Norfolk.

North Carolina. J. F. Cooper (April 20): The tent caterpillar was noted as quite abundant on April 13 in Alexander and Iredell Counties. Colonies were noted on native trees; apple, and peach.

W. A. Thomas (April 20): This insect has completed its larval development and has already pupated at Chadbourn. The tents were more numerous this season than last.

South Carolina. W. C. Nettles and F. Sherman (April 28): Apple-tree tent caterpillar is more noticeable than usual.

Tennessee. L. B. Scott (April 1): Small webs were very abundant in Montgomery County on March 27.

Mississippi. C. Lyle (April 23): J. P. Kislanko reported on April 1 that almost every wild cherry and plum tree in the Wiggins district had a web of M. americana. A heavy infestation was reported in an orchard and nursery at Lumberton, Lamar County.

Pennsylvania. H. E. Hodgkiss (April 19): Tent caterpillars have been hatching and webs are already formed.

Ohio. T. H. Parks (April 22): Tent caterpillars are now becoming common on wild cherry and other trees in eastern Ohio counties. Hatching began at Cleveland on March 28. The infestation in eastern Ohio has been increasing during the last 3 years.

#### EYE-SPOTTED BUDMOTH (Spilonota ocellana D. & S.)

New York. N. Y. State Coll. Agr. News Letter (April): The budmoth was entering the buds rapidly in the lake fruit district the latter half of the month. It was also active in the lower Hudson River Valley.

#### FRUIT TREE LEAF ROLLER (Cacoccia argyrospila Walk.)

New York. N. Y. State Coll. Agr. News Letter (April): A few fruit tree leaf rollers were observed in the Hudson River Valley, also in Orleans and Monroe Counties about April 20.

Pennsylvania. H. E. Hodgkiss (April 19): Caterpillars are hatching and entering partly opened bud clusters.

#### RED-BANDED LEAF ROLLER (Argyrotaenia velutinana Walk.)

New York. N. Y. State Agr. Expt. Sta. Staff (April 22): The adults are active in the apple orchards at Ithaca. This insect is present in large numbers in some sections.

#### FRUIT APHIDS (Aphididae)

New Hampshire. J. G. Conklin (April 12): Apple aphids began hatching in Durham on April 12 on trees that had been under observation daily.

Connecticut. M. P. Zappe (April 23): Green aphids (Aphis pomi Deg.) and rosy aphids (Anuraphis rosceus Bak.) hatched rather abundantly in many orchards in New Haven and Fairfield Counties. Very scarce in these orchards at present. Have had temperatures as low as 18° F. since the aphids hatched.

New York. N. Y. State Agr. Expt. Sta. Staff (April 22): The three apple aphids, A. pomi, A. rosceus, and Rhopalosiphum prunifoliae Fitch, have been hatching at Ithaca during the warmer periods since the first of April. They are not very abundant.

N. Y. State Coll. Agr. News Letter (April): The green and grain aphids were observed hatching the last week in March and the first week in April in the lower Hudson River Valley and also along the lake. A few specimens of these species, together with the rosy aphid, were observed at Ithaca on March 31. The rosy aphid, although later, was being observed generally by the middle of the month.

Pennsylvania. H. E. Hodgkiss (April 19): Late-hatching aphids, mostly the rosy apple aphid, were killed in considerable numbers by freezing temperatures. The earlier individuals were plentiful enough to cause considerable damage to apples.

Indiana. L. F. Steiner (April 25): The rosy aphid is as abundant in southwestern Indiana as ever before observed, according to numerous growers. Serious injury is anticipated.

Kentucky. W. A. Price (April 27): Rosy aphid is very abundant on apple trees at Lexington, Paducah, Henderson, and Princeton.

Michigan. R. Hutson (April 25): Aphids are fairly common on apple trees throughout the fruit-growing district. In most places it is the bud aphid (R. prunifoliae). Only one infestation of rosy apple aphid has been reported, and that from Three Rivers.

Missouri. L. Haseman (April 25): At Columbia little or no evidence has been seen as yet of the rosy aphid. Some growers in east-central and southwestern Missouri are reporting aphids.

Washington. E. J. Newcomer (April): The green apple aphid seems to be more numerous than usual in Yakima County.

#### FLATHEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Nebraska. M. H. Swenk (April 18): Reports of damage to fruit and shade trees have been received from Lancaster, Butler, York, Merrick, Hall and Buffalo Counties.

Oklahoma. F. A. Fenton (April 22): Reports of damage have been received from Stewart and Oklahoma City.



## THRIPS (Thysanoptera)

Pennsylvania. H. E. Hodgkiss (April 19): Thrips adults are very abundant on apple buds in some orchards.

## PEACH

### ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

Delaware. L. A. Stearns (April 23): Between 80 and 90 percent of the overwintering larvae have pupated on this date. Peaches are approaching the shuck stage.

South Carolina. O. L. Cartwright (April 28): Infestation is moderate to heavy in peach orchards in the south-central section. The pest is earlier than usual in its activities.

Georgia. C. H. Alden (April 18): Fruit moth caught on April 18 at Cornelia. No egg laying or twig injury has been noted to date in this section.

O. I. Snapp (April 22): A practically matured larva was found in a peach drop on April 9 at Fort Valley. The first peach twig injury was noticed on April 13. The larvae in these twigs were from one-fourth to one-third grown. The infestation is light.

Michigan. R. Hutson (April 25): The oriental fruit moth had approximately pupated 50 percent on March 25 at St. Joseph, and on April 11 from 30 to 50 percent at South Haven.

### PEACH BORER (Conopia exitiosa Say)

Illinois. O. I. Snapp (April 13): During the examination of peach trees at Carbondale, southern Illinois, 53 peach borers were removed from one large 10-year-old peach tree. This is believed to be a record for the number of borers in one tree.

### PLUM CURCULIO (Conotrachelus nemophar Hbst.)

Delaware. L. A. Stearns (April 20): The first curculio of the season was collected by jarring in Sussex County on April 6, about 2 weeks earlier than usual. They are appearing in about normal numbers.

Virginia. A. M. Woodside (April 20): Plum curculio beetles are present in very large numbers in the Crozet peach orchards. More than 330 beetles were jarred from 20 trees in the Zirkle orchard on April 13. This is the heaviest concentration I have observed.

Georgia. C. H. Alden (April 20): Peak emergence from hibernating quarters occurred on March 24 at Cornelia, when 130 were caught by jarring 20 large peach trees.

O. I. Snapp (April 22): One nearly full-grown larva was observed in a green peach at Fort Valley, central Georgia, on April 8. Full-grown larvae were recovered from peach drops in trays on April 13, which is 3 weeks earlier than last year, and the peak of larval emergence from peach drops occurred on April 19. Conditions in peach orchards were favorable for the matured larvae to enter the soil. Heavy rains beat peach drops into the soil and made the soil wet for a considerable depth. This facilitated the entrance of larvae into the soil and the construction of their soil cells. The infestation is now considered lighter than that of an average year, which is largely attributed to the light infestation last year and the lighter than usual carry-over of adult beetles. It is probable that at least the Elberta peaches in Georgia will be subjected to a second brood of the curculio this year. The peak of the Hilley drop occurred on April 15, and the peak of the Elberta drop on April 20. The drop was unusually heavy this year, but the curculio infestation in the drop was light.

Mississippi. H. C. Poets (April 25): Damage in some peach orchards in Lincoln County recently reported.

Tennessee. L. B. Scott (April 26): The infestation appears to be about normal in north-central Tennessee. Damaged peaches are very common.

Kentucky. W. A. Price (April 27): On April 17 egg deposition on cherries was reported from Cadiz, and specimens were jarred from plum trees at Henderson on April 18. Egg punctures were observed at Lexington on April 25.

#### BLACK PEACH APHID (Anuraphis persicae-niger Smith)

Virginia. W. J. Schoene (April 20): The black peach aphid has been reported over a wide area.

South Carolina. W. C. Nettles and F. Sherman (April 28): Black peach aphid has been much complained of in commercial peach orchards in the western part of the State.

#### LEAFHOPPERS (Cicadellidae)

Virginia. A. M. Woodside (April 20): Leafhoppers are very numerous on peach trees at Crozet and Timberville. The most common species is Erythroneura obliqua (Say), but there are a few specimens of E. hartii (Gill) and E. lawsoniana Bak., E. lawsoniana is fairly common on apple, together with a few individuals of the other two species.

#### PEAR

##### PEAR PSYLLA (Psyllia pyricola Foerst.)

New Hampshire. J. G. Conklin (April 21): On April 20 a few adults were seen in one of the University orchards at Durham. On this date the temperature rose to 85° by 2 p.m. The next day very heavy egg deposition was noted in the orchard.

New York. N. Y. State Coll. Agr. News Letter (April): The first nymphs were observed on April 19 and 20, in the lower Hudson River Valley. In western New York eggs are quite numerous but no hatching has been reported.

PEAR THRIPS (Taeniothrips inconsequens Uzel)

Oregon. D. C. Mote (April): Adults began emerging in small numbers the week of March 7 in the vicinity of Corvallis and Salem.

RASPBERRY

RASPBERRY FRUITWORM (Byturus unicolor Say)

New York. N. Y. State Coll. Agr. News Letter (April): The American raspberry beetle was observed in Orange and Ulster Counties on April 20.

RASPBERRY ROOT BORER (Bombocia marginata Harr.)

Washington. W. W. Baker (April 19): B. marginata began to break hibernation in the Puyallup Valley between April 7 and 11. A small percentage of the larvae were still in the hibernacula on April 19.

ROSE SCALE (Aulacaspis rosae Bouche)

Ohio. E. W. Mendenhall (April): The rose scale is quite bad on some of the raspberry plantations in Knox County.

SNOWY TREE CRICKET (Oecanthus niveus Deg.)

Ohio. E. W. Mendenhall (April): The snowy tree cricket is abundant on raspberry plantations, especially in grass and woods along fence rows.

BLACKBERRY

SOFT SCALE (Coccus hesperidum L.)

Arizona. C. D. Lobert (April 21): A rather heavy infestation of soft-brown scale was found on Boysenberry and Blackberry plants in the Phoenix-Mesa area.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Utah. G. F. Knowlton (April 12): Grape leafhoppers, E. comes ziczac Walsh, were active during the warm part of the day, near piles of Virginia creeper leaves at Logan. Overwinter survival seems to have been rather large.



PECAN

PECAN LEAF CASEBEARER (Acrobasis juglandis LoB.)

Georgia. G. F. Moznette (April 1-17): This insect has caused severe damage to the new growth on pecan trees south of Albany in orchards where control measures were not carried out last season. In some orchards the damage to the new growth is so severe that production of nuts will be curtailed.

Mississippi. C. Lyle (April 21): Two rather heavy infestations on pecan trees were reported from Harrison County on April 21. Specimens were received from De Soto County on April 20, with light injury reported.

HICKORY SHUCK WORM (Laspeyresia caryana Fitch)

Georgia. G. F. Moznette (April 1-17): Moths of the spring brood continued to emerge during April from pupae in the 1937 shucks, the peak of the emergence taking place the latter part of March. On April 16 the last moth was recorded as emerging from pupae in the 1936 shucks. Some larvae pass through two winters before transforming. Eggs were first found on Phylloxera galls on seedling pecan trees on April 10 and larvae were found within the galls on April 16. Up to April 17 no eggs were found on the foliage or pistillate flowers on budded pecan trees in orchards in the vicinity of Albany.

A SAWFLY (Periclista sp.)

Alabama. J. M. Robinson (April 16): Sawflies were attacking pecan trees at Samson, Geneva County, in southeastern Alabama on April 16. This is probably P. hickoriae Rohw., judging by the files of the Insect Pest Survey.

CITRUS

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Alabama. J. M. Robinson (March 8): The citrus whitefly was reported as attacking gardenia foliage and stems at Hurtsboro on March 8.

Mississippi. C. Lyle (April 25): N. L. Douglass, of Grenada, and N. D. Peets, of Brookhaven, have recently reported heavy infestations on Cape-jasmine in their districts.

Texas. F. L. Thomas (April 20): Whiteflies, presumably D. citri, were reported by J. N. Roney as abundant on satsuma at Port Arthur, in Jefferson County, and at Angleton, in Brazoria County. They have also been attacking privet and Cape-jasmine in Brazoria and Galveston Counties, respectively.



CITRUS MEALYBUG (Pseudococcus citri Risso)

Florida. J. R. Watson (April 23): Some complaints of the citrus mealybug are beginning to come in.

A CITRUS ROOT WEEVIL (Pachnaeus sp.)

Florida. J. R. Watson (April 23): A complaint has been received of the work of the citrus root weevil in Dade County.

CITRUS RUST MITE (Eriophyes oleivorus Ashm.)

Florida. J. R. Watson (April 23): Rust mites are very abundant and destructive, as the weather has been very warm and dry for the last month.

SIX-SPOTTED MITE (Tetranychus sexmaculatus Riley)

Florida. J. R. Watson (April 23): The six-spotted mite was very common and injurious to citrus trees in the latter part of March and the first half of April, but the infestation is rapidly subsiding. A species of Scymnus was found feeding on it.

FIG

MEDITERRANEAN FIG SCALE (Lepidosaphes ficus Sign.)

California. C. K. Fisher (April 18): The first hatch of eggs was observed today. Last year the first hatch began about April 23. There has been a steady increase and a steady spread of this insect to new localities ever since it was first noticed in this community.

BLASTOPHAGA (Blastophaga psenes L.)

California. Perez Simmons (April 10): A few females had emerged from galls in *mariae caprifigs* examined today at Fresno, but none were seen flying.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Klug)

- Alabama. J. M. Robinson (April 23): The vegetable weevil has been very abundant in the southern part of the State, the heavily infested area extending three-fourths of the way north on the west side, from November to the present time, the larvae causing considerable damage. The places reporting the greatest destruction were Ozark, Flomaton, Dadeville, and Fayette. Larvae were particularly abundant in some gardens around Auburn during the winter.
- Mississippi. C. Lyle (April 25): Vegetable weevils have been unusually abundant in the southern half of Mississippi during April and a few complaints have been received from the central and northern sections of the State. N. D. Peets, at Brookhaven, has reported that this species is causing more injury to vegetables in southwestern Mississippi than in previous years. Severe injury to turnips in his district is reported by J. Milton, of Jackson. H. Gladney reported one field of turnips in Harrison County practically ruined, and moderate damage to turnips was observed by D. W. Grimes, of Durant.
- Louisiana. P. K. Harrison (April 16): Larvae are still doing some injury to mustard at Baton Rouge.
- Texas. F. L. Thomas (March 10): The vegetable weevil was reported today from Jacksonville, in Cherokee County, attacking spinach, cabbage and radishes. This is the first record of occurrence in that section. This is an area where tomatoes are grown extensively on a commercial scale.
- California. J. Wilcox and M. W. Stone (March 25): Severe damage by the larvae was done to carrots and cabbage in a small garden earlier this month. On this date only one larva was found, but adults were numerous. April 19: Severe damage by larvae to potatoes at Costa Mesa.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata F.)

- Virginia. H. G. Walker and L. D. Anderson (April 26): The twelve-spotted cucumber beetle, which is relatively scarce, has been observed feeding on alfalfa and spinach on warm days all winter long at Norfolk. They have also been observed in bean and potato fields, where they have not been abundant enough to cause appreciable damage.
- South Carolina. W. C. Nettles (April 28): The spotted cucumber beetle has done noticeable damage to the foliage of young peach trees in Edgefield County.
- Mississippi. C. Lyle (April): Adults and larvae sent in from Forrest County, with the statement of heavy injury to watermelon plants. Injury to corn by larvae was reported from Saucier, Harrison County,

on April 1; larvae were sent from Utica, Hinds County, on April 5, collected from tomato plants, severe injury being caused to tomatoes following vetch; and J. Milton observed that the beetles were abundant on turnips in Simpson County on April 19.

Louisiana. C. E. Smith (April 20): Young adults became abundant on various crops and flowering plants in the vicinity of Baton Rouge from April 15 to 17, the first one having been observed on April 1. No fresh larval damage noted since about April 10.

Texas. F. L. Thomas (April 20): Has been more injurious than usual in the destruction of early corn planted on March 29, especially in river-bottom areas.

#### STRIPED CUCUMBER BEETLE (Diabrotica vittata F.)

South Carolina. C. O. Bare (April 19): Striped cucumber beetle was present near Charleston, feeding, mating, and congregating in numbers, there being approximately from 8 to 15 beneath each hill of squash, cucumbers, and Cucurbita pepo. Many of the plants were killed and others seriously damaged.

#### WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

Oregon. D. C. Mote (April): On February 10 adults were noted feeding at Corvallis.

#### FLEA BEETLES (Malticinae)

Mississippi. C. Lyle (April 12): Flea beetles, Altica sp., were reported doing severe damage to strawberry plants at McAdams, in Attala County, on April 12, the infestation being spotted over the field. Moderate-to-heavy infestations of flea beetles were found on turnips in the vicinity of Durant, but no specimens were sent with the report.

Colorado. G. M. List (April): The flea beetle (Systema taeniata Say) has appeared in Fort Collins gardens during the last few days.

#### IMBRICATED SNOUT BEETLE (Epicaerus inbricatus Say)

Mississippi. C. Lyle (April 5): Adults were reported as very abundant on turnips and beans at Lucedale, in George County. Adults were received from a correspondent on April 5 from Brooklyn, Forrest County, with the statement that they were numerous on garden plants.

#### GREENHOUSE WHITEFLY (Trialeurodes vaporariorum Westw.)

Virginia. H. G. Walker and L. D. Anderson (April 26): Whiteflies have been rather abundant on tomatoes in a greenhouse near Norfolk. A small hymenopterous wasp, Encarsia formosa Gahan, as determined by



A. B. Gahan, has parasitized 95 percent of the nymphs and has just about cleaned up this infestation.

#### MOLE CRICKETS (Gryllidae)

Mississippi. C. Lyle (April 25): Correspondents at Madison and Crystal Springs have recently written that strawberries were severely injured by crickets. No specimens were sent. A correspondent at Gautier, Jackson County, sent specimens of S. acrotus on April 18, with the report that tunnels were very noticeable.

Texas. J. N. Ronoy (March): Winged forms of Gryllotalpa hexadactyla Perty and Scapteriscus acrotus R. & H. were found in March on tomatoes, eggplant, strawberries, cabbage, turnips, and rutabagas in Galveston County.

#### POTATO AND TOMATO

##### COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Virginia. H. G. Walker and L. D. Anderson (April 26): Colorado potato beetles are very abundant in the Norfolk area and on the Eastern Shore of Virginia. The eggs are very abundant but no larvae have been observed.

North Carolina. W. A. Thomas (April 20): Adults have been very abundant on potatoes around Chadbourn since the last week in March. Heavy oviposition began the second week in April and the larvae are becoming numerous.

Mississippi. C. Lyle (April 22): This insect was reported by L. J. Goodgame in Monroe and Chickasaw Counties on April 22, as plentiful in tomato plant beds; in Harrison County on April 21 by H. Gladney as heavily abundant, two infestations being on tomatoes; in southwestern Mississippi by N. D. Peets as abundant on Irish potatoes; in Jackson by J. Milton as causing light-to-medium damage to Irish potatoes; and in the Durant district by D. W. Grimes as having been observed at different points but doing little damage.

Louisiana. B. A. Osterberger (April 18): The Colorado potato beetle has been seriously injuring Irish potatoes and, in a few instances, tomatoes, in East Baton Rouge Parish.

Washington. E. W. Jones (April 19): Adults were abundant in the soil of last year's potato fields as determined by soil siftings at Walla Walla in March and April.

##### POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Virginia. H. G. Walker and L. D. Anderson (April): Potato flea beetles are emerging from hibernation and have been feeding on potatoes at Onley.

WESTERN POTATO FLEA BEETLE (Epitrix subcrinata Lec.)

Oregon. D. C. Mote (April 16): These flea beetles were observed in Columbia County on April 16.

POTATO LEAF HOPPER (Empoasca fabae Harr.)

Virginia. F. W. Poos (April 25): This species has been taken at a trap light on the nights of April 19 and 20, which is 16 days earlier than any previous record obtained at Arlington during the last several years. The development of the foliage of certain tree hosts of this species compared favorably with what it usually is early in May, when the insect normally appears.

POTATO PSYLLID (Paratrioza cockerelli Sulc.)

Oklahoma. E. Hixson (April 15): I am sending specimens which were collected from tomatoes growing in the greenhouse at Stillwater. (Det. by P. W. Oman.)

BEANS

MEXICAN BEAN BEETLE (Epilachna varivestis Muls.)

Virginia. L. W. Brannon (April 15): The first adult of the season was found feeding on snap beans in a field near Norfolk on April 11. Only 1 beetle was found on 40 rows 200 feet long, so the beetle was, no doubt, one of the first to emerge. The first field emergence was 9 days earlier than ever recorded at this location. The season in general appears to be about 2 weeks earlier than normal.

Georgia. T. L. Bissell (April 28): At Experiment the first beetles of the season were seen today but obviously had fed for 2 or 3 days. One mass of eggs was found. The first beetles seen in former years appeared on May 1, 1929; May 11, 1934; April 22, 1935; May 5, 1936; and May 4, 1937.

Colorado. R. L. Wallis (April 20): Examination of hibernating beetles at Grand Junction on April 18 showed 39 percent winter mortality. Normal winter mortality is approximately from 60 to 70 percent in this locality at this season of the year.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Virginia. L. W. Brannon (April 18): The first bean leaf beetles of the season were observed feeding in the field at Norfolk on young snap beans on April 15. This is 3 weeks earlier than this insect was first observed in the field in 1937.

H. G. Walker and L. D. Anderson (April 26): Bean leaf beetles are present but have not done much feeding in any of the early bean fields examined in Norfolk or Princess Anne Counties or on the

Eastern Shore of Virginia.

South Carolina. W. C. Nettles (April 28): The spring injury appears to be less than the average for recent years.

Georgia. T. L. Bissell (April 28): At Experiment beetles were severely puncturing bean leaves, as usual in the spring.

LEGUME POD MOTH (Etiella zinckenella Treit.)

California. R. Cecil (April 20): Adults from overwintered larvae began emerging on February 24 at Ventura. First-brood larvae were collected on April 19 in pods of the wild host plant, Lupinus succulentus. The first brood occurs on wild host plants, of which L. succulentus is the most important.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

New York. N. Y. State Coll. Agr. News Letter (April 25): Cabbage butterflies were first observed in Rockland County by W. J. Clark this week.

Mississippi. N. D. Peets (April 25): Considerable injury to cabbage in the trucking section of Copiah County has been observed.

Louisiana. P. K. Harrison (April 16): Severe injury has been done to mustard in experimental plots at Baton Rouge.

Utah. G. F. Knowlton (April 15): An adult was observed in flight at Trenton, in Cache County today.

CABBAGE LOOPER (Autographa brassicae Riley)

Louisiana. P. K. Harrison (April 16): Slight injury has been caused in experimental plots of mustard at Baton Rouge.

Texas. J. N. Roney (March): Reported throughout March on cabbage, sweet peas, and Irish potatoes.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

New York. N. Y. State Coll. Agr. News Letter (April 25): Cabbage maggot eggs were first observed this week in Nassau County and flies were beginning to emerge in Rockland County.

HARLEQUIN BUG (Murgantia histrionica Hahn)

North Carolina. W. A. Thomas (April 14): This insect continues to come into fields of crucifers near Chadbourn in great numbers. Some of



the plants have been killed, while others are badly discolored and the foliage wilted.

Georgia. C. H. Alden (April 20): A large number of adults have been found in gardens at Cornelia. They are more numerous than last year.

Tennessee. L. B. Scott (April 26): Many adults were noted on April 20, feeding on mustard in Montgomery County.

Mississippi. C. Lylo (April): At Magee, Simpson County, J. Milton reported noticeable damage to turnips on April 19; in Grenada a heavy infestation in a garden was observed by N. L. Douglass; and at Lexington damage was done to turnips.

Louisiana. C. O. Eddy (April): The harlequin cabbage bug has been active.

#### CABBAGE APHID (Brevicoryne brassicae L.)

Virginia. H. G. Walker and L. D. Anderson (April 26): Cabbage aphids have been very abundant in some fields of cabbage, seed kale, and seed collards in the Norfolk area.

Mississippi. N. D. Poets (April 21): Heavy infestations of aphids on cabbage were found recently at Brookhaven.

Tennessee. L. B. Scott (April 18): Practically all cabbage in Montgomery County is at least moderately infested with cabbage aphids.

#### ASPARAGUS

#### ASPARAGUS BEETLE (Crioceris asparagi L.)

Virginia. H. G. Walker and L. D. Anderson (April 26): Adults and eggs are rather abundant in a field of asparagus in Northampton County.

South Carolina. W. C. Nettles (April 28): The asparagus beetle is more noticeable than usual.

Utah. G. F. Knowlton (April 27): Adults were brought from Roy, Weber County, in northern Utah, by a farmer who reported that he noticed the insect in 1937 for the first time. This is my first knowledge of its occurrence in the State.

Washington. E. W. Jones and M. C. Lane (April 19): The asparagus beetle was found in asparagus fields around Walla Walla on April 13 and is now common.

California. R. E. Campbell (April 13): Asparagus beetles are causing considerable damage in Los Angeles County by feeding and laying eggs on asparagus shoots.



## ONIONS

### ONION THRIPS (Thrips tabaci Lind.)

Virginia. H. G. Walker and L. D. Anderson (April 26): Onion thrips are very scarce on onions in the field, but they are rather abundant in a greenhouse near Norfolk.

North Carolina. W. A. Thomas (April 21): This insect has just recently become very abundant on a small area of white Bermuda onions. The foliage is showing signs of serious injury. This is an annual pest in the Chadbourn area, which makes it almost impossible to produce a marketable crop.

## SPINACH

### APHIDS (Aphididae)

Virginia. H. G. Walker and L. D. Anderson (April 26): The spinach aphid (Myzus persicae Sulz.) continued to be rather abundant in some fields of spinach around Norfolk during the early part of April, and a few fields were rather heavily infested until they were harvested about April 21. However, most of the later spinach, harvested after April 10, was relatively free from aphids.

H. G. Walker and L. D. Anderson (April 26): A few pink and green potato aphids (Illinoia solanifolii Ashm.) began appearing in a spinach field near Portsmouth about April 15 and continued to increase in numbers until the crop was harvested on April 21 and 22.

### SPINACH LEAF MINER (Pegomya hyoscyani Panz.)

California. R. E. Campbell (April 15): A leaf miner (probably the spinach leaf miner) is seriously damaging Swiss chard and beginning on spinach at the Los Angeles County Farm near Downey.

## LETTUCE

### APHIDS (Aphididae)

Arizona. C. D. Lebert (April 21): Aphids (several species) are abundant on lettuce all over Salt River Valley and nearly all the lettuce growers are dusting.

## STRAWBERRY

### STRAWBERRY WEEVIL (Anthonomus signatus Say)

Delaware. L. A. Stearns (April 20): Very abundant and general injury is reported to strawberry plantings in southern Delaware.

Virginia. L. D. Anderson and H. G. Walker (April 26): The strawberry weevil does not appear to be as abundant as usual in some of the strawberry fields in Accomac County. However, one field examined on April 15 had about 25 percent of the buds cut and the weevils were quite active.

North Carolina. W. A. Thomas (April 21): The peak of injury to strawberries around Chadbourn was passed during the first week of April, when blackberry buds became available for food and oviposition. No emergence of the new generation developing in the fields has been observed.

#### STRAWBERRY LEAF ROLLER (Ancyliis comptana Froel.)

New Jersey. H. W. Allen (April 20): Adults are beginning to emerge around Moorestown.

#### SPITTLE BUGS (Cercopidae)

Louisiana. C. O. Eddy (April): The spittle bug, or froghopper, has damaged strawberry plants in the eastern parishes.

Oregon. D. C. Mote (April): No nymphs of Philacnus leucophthalmus L. had hatched on March 21 but were observed hatching on March 29 at Corvallis. They were observed as first-, second-, and third-instar nymphs damaging strawberry.

#### COMMON RED SPIDER (Tetranychus telarius L.)

Virginia. H. G. Walker and L. D. Anderson (April 26): Red spiders are reported as being rather abundant in a few strawberry fields on the Eastern Shore of Virginia and in Norfolk and Princess Anne Counties, where they have caused considerable injury.

North Carolina. W. A. Thomas (April 15): The red spider has been a major pest of strawberries in the Chadbourn area this season. The injury first became noticeable in March, following the unusual dry weather of February and early March. The attack has increased in intensity, despite the heavy rains late in March and early in April. The injury is general over most of the fields and many plants have lost most of their foliage and are unable to mature the small unmarketable fruit. Unless conditions improve it will not be possible to carry some of the fields of bearing plants through the summer.

#### SWEETPOTATO

#### SWEETPOTATO WEEVIL (Cylas formicarius F.)

Louisiana. C. O. Eddy (April): The sweetpotato weevil is laying eggs on early plants in the field.

SUGAR BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Utah. H. E. Dorst (April 23): Population of the beet leafhopper in most desert breeding areas of northern Utah is approximately one-fifth higher than last year. Winter survival has been high, but the fall population of 1937 was reduced because of poor host plant condition. Some survival has been observed in the agricultural area. First-instar nymphs were first observed on April 22, as compared to May 4 in 1937 and April 20 in 1936.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula F.)

South Carolina. W. C. Nettles and F. Sherman (April 28): The tobacco flea beetle has been doing noticeable damage to newly set plants in the field.

Tennessee. L. B. Scott (April 26): The tobacco flea beetle continues to damage plants in tobacco plant beds in Montgomery County, many beds having been damaged seriously. The infestation is much more severe than in 1937.

TOMATO WORM (Protoparce sexta Johan.)

Florida. A. H. Madden (April 5): An adult female was taken in a moth trap near Quincy on March 29. This is the earliest record of the seasonal occurrence of hornworm ever obtained at the Quincy field station; however, no additional specimens have been obtained. (April 16): A few eggs were taken on tobacco growing in the field on April 14 and were brought into the insectary, where they hatched the following day, indicating that they had been deposited several days prior to the time they were discovered. This is the earliest known seasonal record of egg deposition ever obtained here.

TOBACCO BUDWORM (Heliothis virescens F.)

Florida. F. S. Chamberlin (April 1): Larvae are very abundant on newly set plants in Gadsden County.

GARDEN FLEA HOPPER (Halticus citri Ashm.)

Florida. F. S. Chamberlin (April 13): The garden flea hopper is more abundant than usual in fields of young tobacco in Gadsden County.

MOLE CRICKETS (Gryllidae)

Connecticut. A. W. Morrill, Jr. (April 22): On April 22 characteristic "runs" were noted in a plant bed established this year on new land that had been sterilized. No specimens have as yet been

captured. The description of the insect by the growers, together with the numerous runs, seems to indicate that the infestation is of mole crickets, which have not hitherto been found in seedbeds here. Last year the first commercial attack was recorded by A. I. Bourne in Massachusetts on potatoes. (See I. P. S. Bull. Vol. 17, p. 450. November 1, 1937.)

Kentucky. W. A. Price (April 27): A species of pigmy mole cricket was received from Wootton with the statement that it was abundant in tobacco beds.

#### A CRANE FLY (Tipulidae)

Kentucky. W. A. Price (April 27): Crane fly larvae are very abundant. Many of them are found in tobacco beds, where they are reported to have caused some damage.

### C O T T O N   I N S E C T S

#### BOLL WEEVIL (Anthonomus grandis Boh.)

South Carolina. F. F. Bondy (April 18): The first two weevils of the season were observed in Florence County in a field near a barn where cotton seed had been stored. (April 23): Not as much weevil activity as expected in hibernation cages. First half of month was cold and cotton is a week or 10 days late. (April 30): First weevils caught on flight screen on April 25 and collected on cotton on the 26th.

Georgia. P. M. Gilmer (April 2): Considerable movement of hibernated weevils to fields reported by farmers. (April 23): Insect activity has been rather light because of the unfavorable weather conditions. A rather high survival of weevils is indicated by activity in hibernation cages. (April 30): Weevils are becoming abundant and in some fields over 600 per acre have been found.

Florida. C. S. Rude (April 30): Only a few weevils have been found on cotton in the vicinity of Gainesville, and a few have been reported from Madison County.

Mississippi. E. W. Dunnam (April 23): At Stoneville no weevils have been observed this year. None was reported on this date in 1936 or 1937, but one was seen on April 19, 1935.

Louisiana. R. C. Gaines (April 30): No field examinations have been made at Tallulah but more weevils are being caught on flight screens than in April 1936 or 1937, and a high survival is indicated.

Texas. F. L. Thomas (April 22): The usual extensive survival in the lower Rio Grande Valley did not occur this spring, because of the



fall clean-up of cotton fields. Severe early damage is therefore not anticipated, despite the fact that the winter has been mild and some weevils have already been found on cotton in the field. Survival to date in central Texas is 0.7 percent, about normal for this month.

F. L. Thomas (April 29): Boll weevil emergence has been a little more than 2 percent and is less than average in central Texas. Normally, half of the weevils that survive the winter have moved to the fields in search of cotton before May 1. This year's figures indicate that the emergence will be below normal.

R. W. Moreland (April 30): Weevils have been fairly active in cages at College Station since the rains of April 25 and 26, but none has been observed in the field.

K. P. Ewing, Port Lavaca. (April 9): Observations during the first week of April showed continued weevil activity in stubble cotton and punctured squares were becoming numerous.

COTTON FLEA HOPPER (Psallus seriatus Reut.)

Louisiana. R. C. Gaines (April 30): At Tallulah flea hoppers have been taken in sweeping evening primrose, but they are not as abundant as at this time last year.

Texas. F. L. Thomas (April 22): In central Texas the emergence of flea hoppers the latter part of March was, with two exceptions, the highest since 1920. During the first 2 weeks in April it was higher than in 1935, a flea hopper year, indicating that early cotton would have been subject to damage had it not been destroyed. Present indications are that flea hopper damage in central Texas may be reduced because of the lateness of the cotton crop. In northern Texas damage is not expected to be so severe as in 1937, as records show flea hoppers to have been only half as numerous in the fall of 1937 as in 1936. Such records constitute a good index of the numbers that will be present the following spring.

F. L. Thomas (April 29): During the last 2 weeks cotton flea hoppers appear to have been delayed in hatching. With two exceptions the hatch since April 15 has been the lowest for 12 years. Ordinarily 88 percent of the hatch occurs between March 15 and May 1. This year the numbers hatched during the 6-week period have been about three-fourths of normal. Late-hatched flea hoppers usually find their preferred weed-host plants in a desirable stage of growth, so that the customary early spring dispersal or migration becomes unnecessary and fewer of the insects reach the cotton fields. Both adults and young have been found in Dallas County, and hatching has begun in weeds collected from four counties and caged.

K. P. Ewing (April 23): At Port Lavaca emergence from the overwintering eggs in hibernation cages has been very low, only about one-eighth as great as in the previous 4 years. The movement to the fields, as indicated by the catch on flight screens, has been about three times as great as during the same period in the last three years. The heavy migration to the fields, despite low emergence, was probably due to the very warm and favorable weather until April 6, that was ideal for the maturity of the nymphs hatching in February and March. (April 30): Heavy emergence from hibernation cages since the rains on April 25. The peak of emergence is much later this year than ever before recorded in southern Texas.

Arizona. W. A. Stevenson (April 16): The first nymphs of cotton flea hoppers were found on small croton plants near Rillito, in Pima County. Plants were not numerous but hoppers were found on practically every one.

#### THRIPS (Thysanoptera)

Louisiana. C. O. Eddy (April): The flower thrips has been reported to be unusually abundant. No thrips damage on cotton as yet.

Texas. F. L. Thomas (April 22): Thrips numerous in most cotton fields of the lower Rio Grande Valley, where dry weather has occurred. Sufficient damage to delay development of plants has resulted in some fields.

K. P. Ewing (April 23): Report received from C. D. Dickey that onion thrips (Thrips tabaci Lind.) are causing great damage to cotton in the dry-land farming section of the lower Rio Grande Valley, particularly near Raymondville. A large acreage of onions was grown and the thrips transferred from the mature onions to cotton.

#### BOLLWORM (Heliothis obsoleta F.)

Texas. R. W. Moreland (April 2): At College Station no eggs have been found to date on plants other than alfalfa. (April 9): The first eggs were found on corn during the week. (April 16): Several moths emerged in hibernation cages during the week. (April 30): Eggs at the rate of 4 per 100 plants were found on corn on April 25, the first eggs found on corn since the rains on April 9 and 10. Emergence from hibernation cages averaged 22.5 percent, the highest emergence ever recorded at this date.

K. P. Ewing (April 23): At Port Lavaca numerous bluebonnet plants were examined for eggs during the week, with negative results.

PINK BOLLWORM (Pectinophora gossypiella Saund.)

Texas. L. W. Noble (April 23): Practically all cotton is up to a good stand in the Big Bend area and shows no ill effects of the cold wave on the 8th and 9th. At Presidio pink bollworm moth emergence in hibernation cages continues to be exceptionally heavy, as compared to that in other years.

COTTON LEAF WORM (Alabama argillacea Hbn.)

Texas. K. P. Ewing (May 2): One leaf worm about one-third grown was found in stubble cotton in Calhoun County. This is the earliest observation of first appearance since 1922. In 1936 the first appearance was on May 5, whereas in 1937 the leaf worm was not found until May 27.

F O R E S T   A N D   S H A D E - T R E E   I N S E C T S

CANKERWORMS (Geometridae)

New York. N. Y. State Agr. Expt. Sta. Staff (April 22): Spring cankerworm (Paleacrita vernata Peck) quite abundant on elms in certain nursery plantings in western New York. Egg laying is complete.

Pennsylvania. H. E. Hodgkiss (April 19): Cankerworm adults and eggs abundant throughout the State.

Arkansas. D. Isely (April 19): Spring cankerworms are in a number of orchards in northwestern Arkansas, the first time in 20 years that occurrence in commercial orchards has been recorded. It is probably due to the fact that there has been a let-up in orchard spraying.

Nebraska. M. H. Swenk (April 18): Inquiries as to preventive control of spring cankerworm were received the latter part of March from Douglas, Hamilton, and other counties.

Kansas. H. R. Bryson (April 25): Cankerworms are abundant in limited localities. They were reported as attacking elms in ravines near Manhattan, and as abundant near Paola.

Oklahoma. F. A. Fenton (April 22): Cankerworms have caused widespread damage to fruit trees in the State.

F O R E S T   T E N T   C A T E R P I L L A R (Malacosoma disstria Hbn.)

Vermont. H. L. Bailey (April 21): Eggs have hatched and young larvae were moving on April 20 and 21 at Springfield and Woodstock, Windsor County, in southeastern Vermont, and at Middlebury, Addison County, in western Vermont.



South Carolina. W. C. Nettles (April 26): Forest tent caterpillar is present in extra large numbers in the lower part of the State. Evidently some check on the abundance of the insect is not operating, as there was a bad outbreak last year and a more serious one this year. It is necessary to keep the windows of houses down to prevent the insect from coming in, from 15 to 20 caterpillars having often been found in 1 room. A letter from the county agent at Walterboro states that the outbreak in that county is the worst ever heard of; that last year they took the major part of the honey crop by defoliating black gum and tupelo trees; and that this year in the northeast corner of the county, near Cottageville, several species of oak, even blackjack, have been attacked and defoliated 100 percent. Other trees attacked are black gum, tupelo gum, sweet gum, cherry, and peach. (April 28): Defoliation of forest trees by forest tent caterpillar is conspicuous in various localities in the eastern part of the State.

Mississippi. C. Lyle (April 21): J. P. Kislanko sent specimens on April 1, reporting them as abundant on oak trees at Hattiesburg and southward; on April 21 H. Gladney reported them on oak at Pass Christian and Gulfport; and a correspondent at Lumberton, Lamar County, reported them as abundant in his orchard and nursery during the last few weeks, as well as on near-by forest trees.

FALL WEBWORM (Hyphantria cunea Drury)

Louisiana. B. A. Osterberger (April 15): Injury is very noticeable on willow trees in a swampy section of Ascension Parish.

SATIN MOTH (Stilpnotia salicis L.)

Washington. R. L. Furniss (April): On April 1 a few larvae were found leaving their hibernacula at South Bellingham and Sedro Wolley, in Skagit County. On April 16 nearly all larvae were still present in their hibernacula at Port Angeles, Clallam County, and a high mortality of overwintering larvae was noted in Cowlitz County.

Oregon. R. L. Furniss (April 22): A high mortality of overwintering larvae was noted in Washington, Polk, and Marion Counties.

CYPRESS

A SAWFLY (Susana cupressi Rohw. & Midd.)

California. R. E. Campbell (April 29): During the past week numerous complaints of damage to cypress trees or hedges in Alhambra, in southern California, have been received. Similar complaints have been received about this time of year for several years. (Det. by V. E. Williams.)



ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

New Jersey. T. L. Guyton (March 27): Elm leaf beetle adults were numerous in a building at Bound Brook.

ELM SCURFY SCALE (Chionaspis americana Johns.)

Maryland. E. P. Felt (April 23): Elm scurfy scale was reported as abundant on a number of elms at Cambridge.

FIR

A TUSsock MoTH (Halisidota argentata Pack.)

Washington and Oregon. R. L. Furniss (April 22): This insect is rather abundant this year in Oregon and Washington. It has been noted locally on Douglas fir and Sitka spruce in Skagit and Pierce Counties in Washington, and in Yamhill, Washington, Benton, and Lane Counties in Oregon. Feeding was first noted on February 26, in Lane County.

LARCH

LARCH CASEBEARER (Collocophora laricella Hbn.)

New York. R. E. Horsey (April 15): At Rochester larch casebearer was observed on April 12, moving onto leaves and feeding on Dahurian larch, which leaves out a little earlier than other species. It was found feeding on Siberian, European, and Japanese larches on April 13. Not until April 15 was it found feeding on American larch. Although these larches are sprayed annually, the insects are numerous, especially on Japanese larch.

MULBERRY

EUROPEAN PEACH SCALE (Locanium persicae F.)

Arizona. O. D. Lebert (April 21): An extremely heavy infestation of peach scale was found on mulberry in the Phoenix area. Several large limbs of a tree were killed back and all small limbs and twigs were heavily infested.

OAK

GOUTY OAK GALL (Andricus punctatus Bass.)

Massachusetts, New York, and Pennsylvania. E. P. Felt (April 23): Gouty oak gall is reported as abundant in Pepperell, Mass., southern Westchester County, N. Y., and in the Philadelphia area of Pennsylvania.

OAK LECANIUM (Locanium quercifox Fitch)

South Carolina. W. C. Nettles (April 28): Locanium (soft scale) is noticeable on oaks.

Alabama. J. M. Robinson (April 23): The oak lecanium has been active in Auburn and central Alabama.

PINE

PINE TUBE MOTH (Argyrotaenia pinatubana Kearf.)

New York and New Jersey. E. P. Felt (April 23): The pine tube moth was found to be locally abundant at Moores Mill, Dutchess County, N. Y., and at Englewood, N. J.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Michigan. Ray Hutson (April 25): The European pine shoot moth has been reported from Detroit, in southeastern Michigan, and from Grand Rapids and Kalamazoo, in southwestern Michigan.

SAWFLIES (Neodiprion spp.)

Massachusetts. J. V. Schaffner, Jr. (April 14): In the fall of 1937 there was a heavy egg deposit by an unidentified species of Neodiprion in red pine plantations and in at least one natural stand in Middlesex County. In one heavily infested plantation at Groton, 47 infested tips of side branches contained 2,149 eggs, or an average of 45.7 eggs per tip.

Michigan. R. Hutson (April 25): European pine sawfly (N. banksianae Rohw.) has been reported as just hatching in Detroit.

SOUTHERN PINE BEETLE (Dendroctonus frontalis Zimm.)

Alabama. J. M. Robinson (April): The pine bark beetle was reported as killing some large pine trees at the University of Alabama.

PITCH EATING WEEVIL (Pachylobius picivorus Germ.)

Florida. J. R. Watson (April 23): Numbers of this pitch eating beetle were sent in from Argyle, where they were reported as being very abundant.

PALES WEEVIL (Hylobius pales Hbst.)

Alabama. J. M. Robinson (April 14): Pales weevil was reported attacking spruce pines at Wedowee on April 14.

PINE BARK APHID (Pineus strobi Htg.)

New York. E. P. Felt (April 23): Pine bark aphids (Chermes pinicorticis Fitch) were extremely abundant on white pines at Moores Mill, in southeastern New York.

A SCALE INSECT (Matsucoccus sp.)

Connecticut. T. J. Parr (April 22): Practically no winter mortality of the eggs on pitch pine in Connecticut, and the indications are that there will be nearly 100 percent hatch.

PRICKLY-ASH

PRICKLY-ASH BEETLE (Trirhabda brevicollis Lec.)

Mississippi. C. Lyle (April 1): On April 1 a correspondent at Gulfport, in Harrison County, sent larvae to this office, reporting that they were defoliating prickly-ash.

POPLAR

POPLAR VAGABOND APHID (Mordwilkoja vagabunda Walsh)

Nebraska. M. H. Swenk (April 18): Specimens of galls caused by the vagabond cottonwood gall aphid were sent in from Sioux and Box Butte Counties on April 9 and 12, respectively.

REDBUD

REDBUD APHID (Aphis pawneeae Hottes)

Kansas. H. R. Bryson (April 23): Redbud aphids were found at Manhattan, attacking the underside of the branches of 3-year-old redbud trees. This is the first reappearance for 2 or 3 years.

SPRUCE

SPRUCE NEEDLE MINER (Taniva albolineana Kearf.)

Michigan. R. Yutson (April 25): The spruce tortrix (Argyroplaca abietana Fern.) is active about Lansing.

SUMAC

SUMAC FLEA BEETLE (Blepharida rhois Forst.)

Oklahoma. F. A. Fenton (April 22): The sumac beetle has been reported from Oklahoma City, Sand Springs, and Stillwater. Beetles are appearing in large numbers and are causing serious injury to sumac.

TULIPTREE

TULIPTREE SCALE (Toumeyella liriodendri Gmel.)

Delaware. E. P. Felt (April 23): Tuliptrees at Wilmington are infested by the ~~tuliptree~~ tuliptree scale. The scale-eating caterpillar Laetilia coccidivora Comst. was evidently abundant.

WILLOW

BEETLES (Coleoptera)

Missouri. L. Haseman (April 25): Throughout central Missouri, during the second and third weeks in April, we had a very heavy flight of the spotted and striped poplar and willow beetles, and many poplar and willow trees are showing severe effects of their feeding. A similar condition prevailed a year ago.

I N S E C T S    A F F E C T I N G    G R E E N H O U S E  
A N D    O R N A M E N T A L    P L A N T S

AN APHID (Myzus ornatus Laing)

California. E. O. Essig (April): The ornate aphid occurs in abundance on many wild and ornamental plants at Berkeley and specimens have also been discovered in Los Angeles County. This species was first discovered in California by the writer in 1936.

HAIRY CHINCH BUG (Blissus hirtus Montd.)

Pennsylvania. H. E. Hodgkiss (April 19): Adults of the hairy chinch bug are coming out of hibernation in the Philadelphia area.

MEALYBUGS (Pseudococcus spp.)

Maryland. E. N. Cory (April 19): Mealybugs were observed on house plants, particularly gardenias, at Baltimore on April 19.

Oklahoma. F. A. Fenton (April 22): The long-tailed mealybug (P. adonidum L.) was reported on house plants at Lookeba.

OYSTERSHELL SCALE (Lepidosaphes ulmi L.)

Connecticut. E. P. Felt (April 23): Oystershell scale is locally abundant in southwestern Connecticut.

New York. R. E. Horsey (April 12): Oystershell scale was found on Scotch broom (Cytisus scoparius) at Rochester. One shrub in an ornamental planting was badly infested, with scattered scale on several others.



E. P. Felt (April 23): Oystershell scale was numerous on apple trees at Woodstock.

Utah. G. F. Knowlton (April 16): Willows at Cove and Logan are heavily incrustated with oystershell scale.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

Arizona. C. D. Lebert (April 21): California red scale was found in several small infestations on recheck work this month. The host plants were oleander, privet, and rose.

GROUND-PEARL (Margarodes spp.)

Florida. J. R. Watson (April 23): A species of Margarodes was sent in from Deland, where it was stated to be severely injuring lawns of centipede grass.

COMMON RED SPIDER (Tetranychus telarius L.)

Arizona. C. D. Lebert (April 21): Red spider has been observed in many heavy infestations on Italian cypress in the Phoenix area.

ARBORVITAE

ARBORVITAE APHID (Lachnus thujafilina DelGuer.)

Arizona. C. D. Lebert (April 21): The arborvitae aphid has been observed in several ornamental plantings.

BOXWOOD

BOXWOOD LEAF MINER (Monarthropalpus buxi Laboulb.)

New York. E. P. Felt (April 23): Box leaf midge is somewhat abundant locally at Westbury, Long Island.

CEDAR

DEODAR WEEVIL (Pissodes nemorensis Germ.)

Mississippi. C. Lyle (April 12): Injury to Cedrus deodara was reported from Cary, in Sharkey County, on April 12.

CHRYSANTHEMUM

CHRYSANTHEMUM APHID (Macrosiphoniella sanborni Gill.)

Arizona. C. D. Lebert (April 21): The chrysanthemum aphid has been observed in heavy infestations in the Salt River Valley.

GARDENIA

WHITE FLIES (Aleyrodidae)

Virginia. H. G. Walker and L. D. Anderson (April 26): Whiteflies have been reported as quite injurious to a number of plantings of gardenias in Norfolk.

GLADIOLUS

GLADIOLUS THRIPS (Taeniothrips simplex Morison)

Florida. J. R. Watson (April 23): Proving very destructive in many gladiolus fields. One large planting in Dade County was reported to be an entire loss.

Mississippi. C. Lyle (April 5): Specimens on gladiolus were received from a correspondent at Gulfport, in Harrison County, on April 5.

HOLLY

HOLLY LEAF MINER (Phytomyza illicicola Loew)

Maryland. E. N. Cory (March 23): The holly leaf miner was reported on holly at Annapolis.

IRIS

POTATO APHID (Illinoia solanifolii Ashm.)

Maryland. E. N. Cory (March 31): Macrosiphum goi was reported on iris at Snow Hill.

MAGNOLIA

A COLEOPTEROUS LEAF MINER (Prionomerus calceatus Say)

Mississippi. C. Lyle (April 4): A correspondent at Saucier, in Harrison County, sent specimens to this office on April 4, reporting that hundreds of them were present and feeding on new leaves of magnolia.

NARCISSUS

A NOCTUID (Xanthopastis tinais Cramer)

Mississippi. C. Lyle (April): Larvae were received at this office on April 14 and 21 from correspondents at Puckett, in Rankin County, with the report that they were abundant on jonquils. Others were sent by another correspondent on April 19 without stating from what host they were taken.

NASTURTIUM

SERPENTINE LEAF MINER (Agromyza pusilla Meig.)

Florida. J. R. Watson (April 23): Several complaints have been received of the work of serpentine leaf miners on nasturtiums.

OLEANDER

POLKA DOT WASP MOTH (Syntomeida epilais Walk.)

Florida. J. R. Watson (April 23): The oleander caterpillar is very abundant from Gainesville south.

RHODODENDRON

A WHITEFLY (Dialcurodes chittendeni Laing)

Connecticut. E. P. Felt (April 23): Rhododendron whitefly was somewhat abundant in a planting at Greenwich in the extreme southwestern corner of the State.

AZALEA SCALE (Eriococcus azaleae Const.)

Connecticut. E. P. Felt (April 23): Azalea scale occurred in large numbers on rhododendron at Hartford.

ROSE

ROSE APHID (Macrosiphum rosae L.)

New Jersey. M. D. Leonard (April 24): Rose aphids are becoming abundant on new shoots of various varieties of cultivated roses at Haddonfield, Camden County. All forms are brooding rapidly. This is earlier than usual.

SNOWBALL

AN APHID (Aphis viburniphila Patch)

New Jersey. M. D. Leonard (April 24): Leaves are curling badly already, at Haddonfield, Camden County. Stem-mothers and many young have been observed, attended, as usual, by ants.

INSECTS ATTACKING MAN AND  
DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Vermont. H. L. Bailey (April 22): Large numbers of larvae of Aedes spp. were found in snow-water pools at Salisbury and Leicester, Addison County, in western Vermont on April 7. In some pools where no larvae were found on that date, many were found on April 22.

Florida. B. V. Travis (April 1): Anopheles quadrimaculatus Say was rather abundant at Forshala plantation during the entire winter, but few have been observed since March 1, A. crucians Wied. having become the more noticeable species since that date.

J. B. Hull (April 1): Only a few Aedes sollicitans (Walk.) were found at Fort Pierce in January, February, and March.

Texas. E. W. Laake (April 25): Mosquitoes have apparently been very scarce during the last month.

Oregon and Washington. H. H. Stage (April 25): The first larvae of A. varipalpus Coq. were found on April 12 near Randall, Wash., in an oak stump filled with rain water. The first larvae of A. vexans Mg. and A. aldrichi Dyar and Knab were found on April 21 in the lower Columbia River Valley, as the Columbia freshet reached 12.0 feet. The first adults of Culex pipiens L. were seen at Mt. Angel, Oreg., on April 19. The first anopheline larvae were found in the first instar at Tulatin, Oreg., on April 27. The first larval C. tarsalis Coq. was observed in the Willamette Valley at Tulatin on April 27. Third-instar larvae were taken.

BUFFALO GNATS (Simuliidae)

New York. R. Matheson (April 23): Prosimulium hirtipes Fries, called the "Adirondack black-fly," during the last few years has made its appearance in unusual abundance about Ithaca and is fast becoming a pest of first importance about homes, both in the city and surrounding country. It is very annoying about cottages on the west shore of Cayuga Lake. The first appearance this year was on April 23 and it is quite abundant in the region at such an early date.

California. A. E. Michelbacher (April 20): Buffalo gnats, Eusimulium clarum D. & S., have been found to be very abundant about Patterson and Westley, in the San Joaquin Valley. They were first encountered on March 14 and again on March 24. They literally swarm about a person and are very annoying. They do not bite but get into the hair and eyes. (Det. by A. Stone.) They were continuing abundant up to April 20, being encountered at Modesto, Patterson, Westley,



Vernalis, and Tracy. A few were found at Pleasanton.

EYE GNATS (Hippelates spp.)

Florida. J. T. Bigham (April 26): Eye gnats and sore eyes were reported very troublesome in January, February, and March, at Okeechobee, just north of the lake, and at all points around the eastern and southern shores of the lake. There was not much trouble with them at Moore Haven, toward the western side. Gnats are said to be scarce throughout the low, flat country northwest of Moore Haven until higher ground is reached about 12 miles south of Lake Placid. From this point northward along the Ridge to Haines City, a great deal of trouble was reported every place with gnats and sore eyes. They were abundant enough to be bothersome in school rooms. Sore eyes are said to be most prevalent in the spring from Sebring south. Although trouble from gnats or sore eyes was not reported at all points along the highway skirting the east coast of Florida, an abundance of them was reported in truck fields in southeastern Florida on the edge of the Everglades, only a few miles inland. A status trap, located 3 or 4 miles inland from Fort Pierce, indicated the presence of considerable numbers of gnats in that locality. Eye gnats were not abundant in the area between Orlando and Tallahassee, in the low flat country toward the northwest coast near Perry, but they were very abundant in the higher country north of there, through Monticello, Madison, and Live Oak.

MIDGES (Chironomus spp.)

Vermont. H. L. Bailey (April 22): Great numbers of mosquitolike midges were present in the vicinity of Lake Dunmore, Addison County, western Vermont, on April 22.

SANDFLIES (Culicoides spp.)

Georgia and Florida. J. B. Hull (April): Very few sandflies were observed in the vicinity of Savannah, Ga., in January, except for a few warm, cloudy days when they were numerous near the salt marshes. Few sandflies were present that month in Fort Pierce, Fla., although they were numerous during the last week of December. The same conditions were observed during the early part of February at both stations, although one complaint was received from a resident on the island east of the city of Fort Pierce, Fla. During the latter part of February and in March at Savannah, Ga., sandflies were more numerous than at any time since 1935. Early in the morning and late in the afternoon it was almost impossible to remain out of doors, especially near the marshes. They were annoying as far as 2 miles from the marshes on cloudy days when the wind was not blowing. Collections made by sweepings showed that C. canithorax Hoff. constituted over 98 percent of the flies. During the same period

some complaints were received at Fort Pierce, especially from workers on the island east of there, and residents living along the Indian River. Some of the workers on the island quit work on account of the flies.

TROPICAL RAT MITE (Liponyssus bacoti Hirst)

Kentucky. Dorsey Drug Co. (April 19): Mites were found on rats in Horse Cave on April 11. (Det. by H. E. Ewing.)

AMERICAN DOG TICK (Dermacentor variabilis Say)

Massachusetts. C. N. Smith (April 1): All stages of the American dog tick became active towards the end of March on Martha's Vineyard Island. The first adults were found March 21 and a few specimens have been taken daily since that time. The first larvae appeared on March 21 and a single nymph was taken on March 29.

District of Columbia. F. C. Bishopp (April 26): It is indicated from reports received from residents of the District and outlying suburban areas that the American dog tick made its first appearance about April 1, and that it has been building up quite rapidly since.

ROCKY MOUNTAIN SPOTTED FEVER TICK (Dermacentor andersoni Stiles)

Washington. M. C. Lane (April 19): The Rocky Mountain spotted fever tick was abundant in the foothills of the Blue Mountains on April 15.

CATTLE

STABLEFLY (Stomoxys calcitrans L.)

Georgia. A. L. Brody (April 13): The stablefly has been annoying to cattle around Valdosta. Usually from 25 to 50 are observed on each head of cattle.

Texas. E. W. Laake (April 25): The stablefly apparently varies in abundance at different places in the vicinity of Dallas and Fort Worth, and ranges from 2 or 3 flies per animal, where the cattle graze in open pastures, to as high as 50 per head, where the animals are around barns or corrals.

HORN FLY (Haematobia irritans L.)

Georgia. A. L. Brody (April 13): Horn flies have not increased in numbers during the past month at Valdosta. The usual number seen on steers in this locality ranges from 100 to 200 per animal.

Texas. E. W. Laake (April 25): By April 1 horn fly populations of 2,000 per head on cattle were common in the vicinity west of Fort Worth, Tex., and about 500 per head were observed on cattle at

dairies around Dallas. After the cold wave of April 6 to 10, the population was reduced at least 50 percent and probably 75 percent. Since this cold spell, the population has again increased but apparently has not yet reached the abundance that occurred just before the cold weather mentioned above. The horn fly passed the winter in Dallas in the pupal stage, as evidenced by the emergence of flies after March 30, from material kept in hibernating cages.

O. G. Babcock (April 22): The infestation in the vicinity of Sonora is from light to medium, that is, from 25 to 500 per animal.

#### HORSE

##### BLACK HORSEFLIES (Tabanus spp.)

Texas. E. W. Laake (April 25): The first specimen of T. atratus F. was observed on an animal on April 18 at the laboratory at Dallas. Another specimen was observed feeding on a sheep on April 21. A specimen of another species, apparently T. lineola F., was caught in the cattle-fly trap on April 20. Three individuals of this species were taken in the cattle-fly trap operated on the laboratory premises during the week ending April 25.

##### A BUFFALO GNAT (Simulium vittatum Zett.)

Nebraska. M. H. Swenk (April): On March 24 a Clay County correspondent sent in specimens of the black fly with the statement that this fly was a very serious pest of horses, entering their ears and irritating the membranes. This pest was first noticed on this farm by the correspondent 3 or 4 years ago. A similar complaint was received from Thurston County on April 16.

##### WINTER TICK (Dermacentor albipictus Pack.)

Oregon. H. H. Stage (April 5): Range horses were moderately infested with these ticks near John Day. No D. andersoni were seen at this time. (Det. by J. M. Brennan.)

#### POULTRY

##### EUROPEAN CHICKEN FLEA (Ceratophyllus gallinae Schr.)

New York. R. Matheson (March 30): C. gallinae was reported at Gasport in northwestern New York, for the first time.

##### STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Alabama. J. M. Robinson (April 16): The chicken flea was reported from Lanett on April 16.



HOUSEHOLD AND STORED-PRODUCTS INSECTS

TERMITES (Reticulitermes spp.)

Connecticut. N. Turner (April 23): The usual large number of infestations of R. flavipes Koll. has been reported. Flights have been general during the last month. Many comparatively new buildings are seriously infested.

Rhode Island. A. E. Stone (April 21): There have been two complaints of invasions by termites in Providence, apparently starting the same time as in previous years.

New York. E. P. Felt (April 23): Termites, R. flavipes, were abundant in a house at Brewster.

Pennsylvania. H. E. Hodgkiss (April 19): Winged termites have been taken around Pittsburgh and Philadelphia during the last 3 weeks.

Maryland. E. N. Cory (March and April): Termites have been reported in houses in Baltimore City and County, College Park, Silver Spring, Hagerstown, and Anne Arundel County, during the last 2 months.

South Carolina. W. C. Nettles and F. Sherman (April 23): For whatever reason, complaints and inquiries about termites are now less than usual at this season.

Illinois. W. P. Flint (April): Termites have been swarming during the last month, both from heated buildings and outside. Many swarms have been reported from the central part of the State.

Michigan. R. Hutson (April 25): Termites, particularly R. flavipes, have been reported from Grand Rapids and Coldwater.

Missouri. L. Haseman (April 25): While the swarming of termites throughout the State began in March, some property owners have continued to report swarming up until the third week in April.

Nebraska. M. H. Swenk (March 29): Termites, R. tibialis Banks, were reported as requiring control in Buffalo County on March 29.

Oklahoma. F. A. Fenton (April 22): Termites have been reported at Oklahoma City, Okmulgee, Shawnee, and Nowata. The past warm spell has caused these insects to swarm in large numbers in the vicinity of Stillwater.

Texas. E. W. Laake (April 25): During the last 2 weeks, from 6 to 12 calls per week have been received at the laboratory for information on the control of termites in residences in the city of Dallas.



LEAD CABLE BORER (Scobicia declivis Lec.)

California. D. F. Barnes (April 20): A rotary net, set in operation on April 14 in a storage yard at Fresno began to take these beetles on April 17 and 18. Two were captured during this 2-day period and 47 on April 19.

BROWN SPIDER BEETLE (Ptinus brunneus Duft.)

Ohio. T. H. Parks (April 22): Specimens were sent in with the statement that they were being taken commonly in rooms of occupied houses in Union and Highland Counties. (Det. by J. N. Knull.)

A CURCULIONID BEETLE (Hoxarthrum ulkei Horn)

Connecticut. N. Turner and M. P. Zappe (April 23): Yellow pine trim in a New Haven building has been badly damaged by this insect. Some ash trim was also infested. The building is about 30 years old. (Det. by L. L. Buchanan.)

A SHOT-HOLE BORER (Dinoderus minutus F.)

Ohio. J. N. Knull (March 30): Bamboo sticks imported from Japan by a Columbus florist were found to be heavily infested with larvae and adults on March 30. (Det. by W. S. Fisher.)

PEA WEEVIL (Bruchus pisorum L.)

North Carolina. J. S. Pinckney (April 20): Two adults were swept from a row of Austrian winter peas on the Experiment Station grounds at Statesville this morning. This bruchid, like B. brachialis Fabricius, is evidently just emerging from hibernation quarters.

A SPIDER BEETLE (Gibbium psylloides Czemp.)

New York. M. D. Leonard (April 24): Beetles are occurring in fair numbers in New York City and their presence is causing annoyance.

INDIAN-MEAL MOTH (Plodia interpunctella Hbn.)

Nebraska. M. H. Swenk (April 7): From Knox County on April 7 came a specimen of Indian-meal moth for identification and control measures.

Utah. Mrs. O. N. Smith (April 21): These insects get under the covers and paraffin on any seedy fruit jams, and from one-third to one-half of the jam is liquidlike and spoiled. (Det. by C. Heinrich.)

SUGARCANE BEETLE (Eutheola rugiceps Lec.)

Louisiana. B. A. Osterberger and C. O. Eddy (April): Very active in Saint Mary Parish. The adults are feeding on sugarcane and corn. In the Bayou Teche section in some fields fully 80 percent of the original sugarcane plants have been destroyed. No reports of this pest have yet come in from northern Louisiana.

J. W. Ingram and L. J. Charpentier (April 23): At Franklin beetle injury is the heaviest since 1933. Injury reached its peak about the middle of April. Recent rain in the section suffering heaviest injury has been of benefit in increasing suckering of injured plants.

SUGARCANE ROOTSTOCK WEEVIL (Anacetrinus subnudus Buchanan)

Louisiana. B. A. Osterberger (March 30): In Saint John the Baptist and East Baton Rouge Parishes this insect has been noticed on several occasions moving about on the ground in sugarcane fields, as if migrating from trash in middles to the growing cane.